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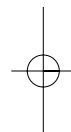
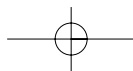
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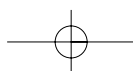
Keeping Secrets

Quantity, Quality and Consequences

Tom Frijns



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VRIJE UNIVERSITEIT

Keeping Secrets

Quantity, Quality and Consequences


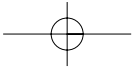

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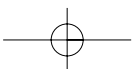
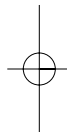
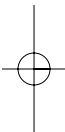
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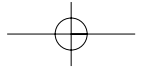

Preface

For the past three years I have been on a quest to unravel the secrets of keeping secrets. During this time I have been very lucky to have found myself in supportive, inspiring and encouraging surroundings in many respects. The department of Social Psychology at the Free University feels like home to me, and despite the depressing building that houses it, I love being there. The Kurt Lewin Institute has provided me with the most nurturing environment that any PhD-student could wish for. My friends and family have done their share, as they have been doing in all aspects of my life for quite a long time. Many people have contributed in many different ways to the book that I hope you are about to read, and I am grateful to them all. In this preface, I would like to thank them.

First and foremost, I am indebted to my chief, Catrin Finkenauer, in more ways than I could possibly describe even if this preface could take up a hundred pages. Luckily, there are more potent means of expressing gratitude than this preface. The same goes for Fia Eindhoven, whose expert handling of the layout of this dissertation is all I will mention here, the rest will remain our little secret. I am also greatly indebted to Rutger Engels, without whom I never could have produced this dissertation within three years. Many thanks to Ad Vermulst for his statistical advice and contributions to Chapter 2, and to Peter Kerkhof for his contributions to Chapter 3. I am also thankful to Paul van Lange for being the perfect promotor.

Muchas gracias to everyone at the department of Social Psychology at the Free University, especially my fellow PhD-students. In particular, I would like to thank Myrke Nieweg for her collaboration in our pet-projects on evolution, Wilco van Dijk for being Wilco, Nils Jostmann for sharing the honeymoon suite with me, and Carla Heldens and Clare Pasanisi for everything. Special thanks to Marcello Gallucci for all of his advice, statistical and otherwise, but especially for being the greatest roommate imaginable and for sharing my love for Johnny Cash (and kudos to Niek for putting up with the three of us). It has been and still is an honor, not to mention a lot of fun, to be a part of 'our' department.

I am grateful to Unna Danner for helping me collect the secrets of hundreds of adolescents, Marc Strijker for designing the cover of this book, Ximena Arriaga for her dedication to a paper above and beyond the call of duty, Dymphy Frijns for being my paranymp, Remco van Brink for being a lazy little punk, and Lex Frijns and Margriet Frijns for generously donating their genetic material and laying the foundations on which this dissertation was ultimately built.



I thank the headmasters and teachers of all the schools that participated in my research for so generously letting me take over their classrooms and for helping to collect huge amounts of data. And I thank hundreds of their students for taking the time to answer seemingly endless amounts of questions about their secrets.

And, last but not least, a very special thank you to (enter your name here)

Thanks!

Tom Frijns

December 2004



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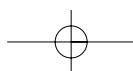
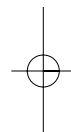
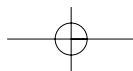
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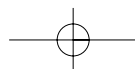
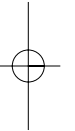
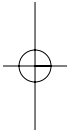
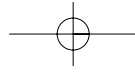
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Chapter 1 Introduction

This book deals with a phenomenon that, by its very nature, is elusive. When it comes to their secrets, people are typically not very forthcoming. But do not be fooled by this elusiveness: Secrets are commonplace. We have all kept secrets at one time or another. We have kept them from our parents, our peers, our enemies, our allies, and our past, present, or potential future partners. We have kept them to ourselves, shared them with a confidant, or shared them with the members of the group(s) to which we belong. The kinds of things people keep secret include their thoughts, feelings, desires, allegiances, actions, experiences, and beliefs. Virtually anything, from our happiest memories to the darkest corners of our souls, may be subject to secrecy.

Secrecy is a common practice in all arenas of human activity. In business, corporations conceal their innovations and strategies to gain the upper hand on their competitors. Magicians keep their tricks secret to protect their craft. In politics, dark pasts and sexual escapades are kept from the public to safeguard careers. Governments employ secret agencies to stealthily uncover other governments' secrets. Adults and children alike form secret clubs and societies that set them apart from others, and whose secret rituals and secret handshakes, known only to insiders, serve to establish a sense of belonging, commitment, and group identity. In relationships, people keep secrets to make more favorable impressions, to avoid embarrassment or rejection, to avoid being hurt or hurting others, or to maintain independence and control. They also share some of their secrets with others to communicate liking and trust, to strengthen intimate bonds, and to elicit support. In short, secrets are abundant and secrecy is a pervasive aspect of our daily lives.

Given their pervasiveness and the important functions they may serve, it may seem strange to find that psychological knowledge about secrets is very limited. With the research and ideas presented in this book, we¹ hope to contribute to the steadily growing body of literature on secrets and secrecy. Specifically, we aim to expand our knowledge about the consequences of secrecy for the person who is keeping secrets and his or her interpersonal relationships. An outline of the following chapters and the studies presented therein will be given at the end of this introductory chapter. But first, we will briefly address some basic issues concerning secrets and secrecy, and provide a concise overview of extant theorizing about the consequences of keeping secrets. We will start with setting the stage by answering the most obvious question that seems called forth: What exactly are we talking about when we talk about secrets?

Chapter 1

Defining Secrecy

Secrecy can be defined as the intentional concealment of information from others (cf. Bok, 1989; Kelly, 2002). As we see it, secrets consist of information that (at least) one person actively and consciously withholds from (at least) one other person. Thus, secrecy is an inherently social phenomenon involving information that is either withheld or differentially shared between or among people (Karpel, 1980). Secrets separate those who are in the know, the *secret-keeper(s)*, from those who are not, the *secret-target(s)*. When one person conceals information from everyone else, this information would constitute an *individual secret*. In contrast, information that is shared by more than one person but concealed from others would constitute a *shared secret*. Lane and Wegner (1995) argue that secrecy can be private and quite personal because targets may be distant, imaginary, or long-dead. Although keeping a secret can thus be done alone in a room, these authors acknowledge that it is ultimately a social act, "or rather an *antisocial act*" (p. 237), because it always involves hiding information from a target-audience that is present either in physical reality or in the memory or imagination of the secret-keeper.

Although it may be possible to keep a secret all *by oneself*, it is not possible to keep a secret *from oneself*. Our definition establishes secrecy as a conscious process that is deliberate and intentional. Thus, information that is hidden from the self and not consciously accessible, for example as a result of successful repression (Freud, 1915/1963; Schwartz, 1990), is not considered secret by our definition. Secrecy involves a conscious decision to conceal a certain piece of information from one or more others. Keeping a secret requires awareness of the information that is to be withheld and of the people it is to be withheld from to prevent the secret from being uncovered. Furthermore, it requires constant active monitoring of the secret information and continuous screening of conversations and interactions with others to separate information that is off-limits from information that is safe to be revealed (e.g., Lane & Wegner, 1995; Wegner, 1994). This brings us to the final property of secrecy that is featured in our definition, namely that keeping a secret is an active process.

Secrecy is an effortful undertaking that demands that secret-keepers deliberately and actively engage in strategic behavior that keeps the secret information from the awareness of others. Such behavior encompasses both active and inhibitory efforts. Active efforts are directed towards the (social) environment and include hiding clues that could point to the existence of the secret, changing the topic of a conversation when it wanders into dangerous territory, or avoiding secret-targets altogether. Inhibitory efforts are internal strategies and include suppressing secret-related thoughts or feelings, and suppressing one's natural desire to disclose

personal information (e.g., Lane & Wegner, 1995; Pennebaker, 1989). Thus, keeping secrets can be hard work.

In sum, we have presented three hallmarks of secrecy (cf. Finkenauer, 1998). Secrecy is a social phenomenon, happening between or among people. It is also a conscious phenomenon that involves purpose and intent. Finally, it is an effortful phenomenon that requires active engagement in secret-keeping behaviors. In addition to defining secrecy, it may be useful to say something about how secrecy is related to, but different from, a number of other concepts with which it is sometimes equated in the literature.

Distinguishing Between Secrecy and Related Concepts

Our definition of secrecy is by no means exhaustive, and therefore leaves some room for ambiguity. This ambiguity is reflected in the literature, where different authors use the term differently and sometimes interchangeably with other terms. To paint a clearer picture of what secrecy is and is not, we will discuss how it relates to, but can also be differentiated from, the concepts of disclosure, privacy, and deception.

Secrecy versus Disclosure

Logic dictates that a piece of information that is kept secret is not disclosed, whereas a piece of information that is disclosed is not kept secret. It is not very surprising then, that secrecy has often been viewed as the opposite of (self-)disclosure (e.g., Chelune, Waring, Vosk, Sultan, & Odgen, 1984). However, secrecy and disclosure often occur simultaneously or operate on the same information in everyday life. For example, when telling her parents about last night's party, an adolescent girl may talk about some of her friends who attended, the music that was played, and the food that was served. At the same time, she meticulously avoids making any reference to the boy she kissed, because she fears that her parents would not take kindly to her getting involved with boys. Similarly, her love interest might keep his alcohol consumption at the party secret from his family, but brag about it in the company of his friends. Thus, secrecy and disclosure are not necessarily always direct opposites. Even when considering a specific piece of information and a specific target, keeping this information secret is different from not disclosing it. Mere non-disclosure is effortless, whereas keeping a secret, as discussed earlier, can be hard work. For instance, if the parents of the boy in the previous example had no objection against their son drinking alcohol, he might still not have mentioned his drinking because he was too enthusiastic about sharing the news of his new girlfriend. This non-disclosure would be very different from the active concealment of his drinking. Reflecting this distinction, secrecy has also been called "active inhibition of disclosure" (Pennebaker, 1989). Thus, although secrecy and

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disclosure are clearly related aspects of interpersonal communication, their divergent qualities also set them apart as two distinct phenomena (for similar arguments, see Finkenauer & Hazam, 2000; Larson & Chastain, 1990; but see also Kahn & Hessling, 2001).

Secrecy versus Privacy

Given that both secrecy and privacy involve restricting others' access to personal information (e.g., Margulis, 2003; Petronio, 2002), it is difficult to clearly distinguish between the two. Indeed, many authors seem to have struggled with this issue. Bok (1989) defined privacy as "the condition of being protected from unwanted access by others" (p. 10). Secrecy, defined as intentional concealment, could thus be seen as a means to control others' access to personal information when privacy is threatened (cf. DePaulo, Wetzel, Sternglanz, & Walker Wilson, 2003; Larson & Chastain, 1990). This approach makes it hard to distinguish between the two, as they seem to differ only in degree of hiding, with secrecy being an extreme measure in the regulation of privacy. Many authors have argued that the distinction lies in what could be called the legitimacy of withholding the information. For example, Kelly (2002) argued that "whereas privacy connotes the expectation of being free from *unsanctioned* intrusion, secrecy does not" (p. 4, italics added). Karpel (1980) suggested that the distinction lies in the relevance of the concealed information to the target(s). Withholding information that is irrelevant to the target would be considered private, whereas information that is (highly) relevant would be considered secret. Finally, Warren and Laslett (1977) suggested that the moral content of the concealed information distinguishes between privacy and secrecy. Privacy protects morally neutral information that is accepted or valued by society, whereas secrecy protects information that is morally negative and condemned by society. All these authors would probably agree that, for example, having a hidden dangerous contagious disease should be considered a secret because this information is highly relevant to others, and because society has a right or obligation to intervene in such cases. Similarly, concealing extra-marital sex would be considered a secret because it is highly relevant to the spouse and disapproved by society at large. Within marriage, however, sex is considered a private matter that need not be disclosed to outsiders because it is not relevant to others nor in any way frowned upon. Though these distinctions may be useful, they are also difficult because relevance, legitimacy, and morality are equivocal and subjective. Finkenauer (1998) suggested a distinction that focuses more explicitly on a difference in the degree of hiding that has been noted by several authors (e.g., Bok, 1989; Warren & Laslett, 1977). Secrecy and privacy both deny others access to information, but unlike privacy, secrecy conceals the very existence of this information (cf. Margulis, 2003). Applied

to the previous example, intra-marital sex is private because everyone knows that married couples tend to have sex. Thus, spouses do not hide the fact that they have sex, but may conceal the particulars of their sex life. When concealing an extra-marital affair, on the other hand, it is crucial to hide its very existence, not just the details. Such a hidden affair would constitute a secret sex life.

Secrecy versus Deception

How are secrecy and deception related, and how are they different? In a word, secrecy and deception both obscure the truth, but they do so in different ways. As Lane and Wegner (1995) put it, deception can be considered an "act of commission" because it involves inducing a belief in another person that one knows to be false, whereas secrecy would be an "act of deceptive omission" because it involves preventing the other from knowing something one believes to be true (p. 237). These authors consider secrecy as a peculiar form of deception, as deception by omission. DePaulo et al. (2003) argue that secrecy can be a component of deception, as when "a truth is secreted away, and an imposter unleashed in its place" (p. 392). For instance, an impotent man may conceal his ineptitude and feign sexual prowess by spinning tales of his sexual escapades. In contrast, another man with no such secret to conceal who made the same false claims to impress his friends would also be practicing deceit. In this case, his secret, if one even chooses to label it as such, would simply be that his sexual prowess is not in fact as great as he professes. We would argue that deception can also be a component of secrecy. Keeping a secret is not merely a matter of passive omission; it involves active attempts to prevent others from finding out about the secret. At times, secret-keepers may engage in deceptive practices to maintain secrecy (e.g., Wegner, Lane, & Dimitri, 1994). For example, a woman who conceals from her husband the fact that he is not the father of her child would be keeping a secret. To maintain secrecy, she may avoid taking a blood test that could uncover the secret. She may also deceive her husband by repeatedly telling him how much the child resembles him in appearance. Thus, the act of keeping a secret may comprise many different strategies, one of which is deception. Lane and Wegner (1995) acknowledge that acts of commission may be motivated by secrecy, but contend that the secret itself simply remains unsaid. In this view, secrecy and deception are two distinct types of deception. Regardless of which view one favors, it is clear that secrecy and deception are different but often entangled phenomena. They are different in the sense that secrecy withholds a truth, whereas deception offers a falsehood, and the two need not co-occur. They become entangled when secrecy becomes a component of deceit (i.e., when a truth is concealed and

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a falsehood is offered instead), or vice versa (i.e., when others are misled to prevent them from finding out about a secret).

Now that our subject is clearly defined and its differences and connections with the related phenomena of disclosure, privacy, and deception have been discussed, we will turn to the next question that seems to present itself. If keeping a secret can be such hard work, then why do people keep secrets?

Why People Keep Secrets

What motivates people to keep secrets? What purpose do secrets serve? The literature suggests a number of motivations that may underlie secrecy and a variety of functions and purposes it may serve. We will distinguish four functions that have been proposed in the literature before presenting the need to belong (Baumeister & Leary, 1995) as a basic motivation that may explain why people keep secrets. Note that our separate discussions are by no means meant to imply that the different functions are exclusive or independent. On the contrary, different functions may overlap and influence each other. On the one hand, secrecy may serve multiple functions at the same time. On the other hand, the extent to which people keep secrets may be determined by their attempts at maintaining balance between multiple conflicting motives.

Protection

The most common idea presented in the literature is the notion that people keep secrets out of concern about the social consequences of their revelation (e.g., Bok, 1989; Kelly, 2002; Larson & Chastain, 1990; Simmel, 1950; Wegner & Lane, 1995). In this view, secrets serve to protect secret-keepers and their relationships with others from harm. On the one hand, concern about social consequences may focus on receiving disapproval from others (e.g., Wegner & Lane, 1995). Thus, people keep secrets because they anticipate ridicule, contempt, rejection, stigmatization, social exclusion, retaliation, or hostility. In these cases, secrecy protects secret-keepers directly from the wrath of others. On the other hand, concern about social consequences may focus on potential negative relational consequences (e.g., Afifi & Guerrero, 2000; Finkenauer & Hazam, 2000). Thus, people keep secrets to avoid hurting others and to avoid relationship deterioration or termination. In these cases, secrecy protects secret-keepers indirectly by protecting their relationships with others.

Concern with anticipated social consequences is reflected in the answers people provide when asked about their reasons for keeping a secret. For example, the majority of reasons for secrecy provided by female sexual assault victims (Binder, 1981) and incest victims (Roesler & Wind, 1994) involved other people (e.g., perpetrator, family, police) and consisted either of social emotions (e.g., embarrassment, shame, and guilt) or concerns

about the social consequences of the secret's revelation (e.g., retaliation, being blamed or punished, effects on others). Research among psychotherapy clients reveals similar reasons for keeping secrets, with embarrassment and shame listed most frequently (e.g., Hill, Thompson, Cogar, & Debman, 1993; Kelly, 1998). Investigations of the reasons for keeping secrets in everyday life suggest that concern about social consequences is not limited to the particular secrets that were the focus of the studies mentioned above (e.g., Finkenauer, 1998; Vrij, Nunkoosing, Paterson, Oosterwegel, & Soukara, 2002). In a study reported by Finkenauer (1998), 92.8% of the reasons reported for keeping a secret involved protecting the secret-keeper and his or her relationships from undesirable social consequences. The notion that secrecy is motivated by concerns about social disapproval is also supported more directly by studies showing that perceived social disapproval predicts secrecy (e.g., Major & Gramzow, 1999; Vrij, Paterson, Nunkoosing, Soukara, & Oosterwegel, 2003). For example, Major and Gramzow (1999) found that among women who had an abortion, feelings of stigma predicted secrecy. Thus, women who felt that they would be stigmatized for having an abortion were more likely to feel a need to keep it secret from their family and friends. Finally, research among relationship partners and families has consistently shown that relationship protection is a strong motivating factor underlying secrecy and topic avoidance (e.g., Afifi & Burgoon, 1998; Baxter & Wilmot, 1985; Guerrero & Afifi, 1995; Hatfield, 1984; Vangelisti, 1994). In sum, concern about the anticipated negative social consequences of disclosure seems to be a major determinant of secrecy. Thus, people employ secrecy to ward off perceived threats to themselves and their social bonds.

Power and Control

Now that we have seen how secrecy may serve to protect secret-keepers by preventing undesired consequences, we will shift our attention to how it may serve more directly to promote their interests. Secrecy can be a source of power and can give secret-keepers a sense of control over their social environment (e.g., Bok, 1989; Schlenker, 1980; Simmel, 1950). Possessing knowledge that no or few others have can provide strategic advantages over others and ensure power and superiority. Examples of power through secrecy are most abundant in politics (e.g., secret services) and business (e.g., secret recipes) but can also be found on an interpersonal level, as when knowing someone else's secret provides leverage to manipulate them. Research in developmental psychology has shown that as children mature, they learn to conceal information from others and to use such information to influence or manipulate them (Peskin, 1992). In fact, merely insinuating that one possesses a secret, even when no secret actually exists, can create an impression of power and superiority (Simmel, 1950;

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Karpel, 1980). Furthermore, people can exert control over others' perceptions of them by strategically concealing personal information. Thus, secrecy may be used for impression management (Schlenker, 1980; Snyder, 1977). Secrecy, then, can not only be employed as a defensive strategy to avoid undesired outcomes, but also as an offensive strategy to attain desired outcomes.

Identity and Independence

Some authors have argued that secrecy is an important component in the development and maintenance of identity and independence (Hoyt, 1978; Jung, 1961; Margolis, 1966, 1974; Simmel, 1950; Tournier, 1965). Secrecy may contribute to the individuation processes by which people develop and maintain an individual and autonomous self. While important throughout the life-span, two major goals in the individuation process are obtained in childhood and adolescence. In childhood, this task consists of distancing and disengaging oneself from primary caretakers and establishing boundaries between "self" and "nonself" (Kaplan, 1987; Mahler, Pine, & Bergman, 1975, 1994). The emergence of the capacity to use secrecy is commonly considered as an indication of children's sense of self, because it reflects that children are able to take the perspective of another person and to differentiate between themselves and others (Meares & Orlay, 1988; Peskin, 1992; Pipe & Goodman, 1991). In adolescence, this task consists of relinquishing the dependence on parents and establishing and consolidating capacities of self-regulation and self-determination (e.g., Allen, Hauser, Bell, & O'Connor, 1994; Larson, Richards, Moneta, Holmbeck, Duckett, 1996; Steinberg & Silverberg, 1986). Paralleling the separation from close others inherent in the individuation processes, secrecy separates those who know from those who don't. Secrecy has therefore been proposed to facilitate the process of individuation (Margolis, 1966; Simmel, 1950; van Manen & Levering, 1996). Moreover, to keep a secret, the secret-keeper needs to exert self-control and personal choice. Secrecy may thus contribute to the development of self and autonomy (Margolis, 1966). In one of the few studies that addressed these suggestions, Finkenauer and her colleagues found that keeping secrets from parents contributed to adolescents' feelings of emotional autonomy (Finkenauer, Engels, & Meeus, 2002). In adulthood, secrecy may be similarly related to identity and independence (Imber-Black, 1993; Karpel, 1980). Secrecy may be motivated by individuals' needs for identity and autonomy. For example, in relationships people may keep secrets to maintain a sense of individual identity and autonomy (e.g., Baxter, 1988, 1990; Petronio, 1991).

Now that we have seen how secrecy may serve identity and independence, we will consider how one particular type of secrecy may also aid the development and maintenance of interdependence. That is, we turn

our attention from how secrecy separates secret-keepers from secret-targets to how it connects secret-keepers with each other.

Intimacy, Relatedness, and Trust

So far, we have focused on functions that secrecy may serve through its concealment of information from others. However, many secrets are not only kept from others, they are also shared with others (cf. Finkenauer, 1998). Secrets may be shared between two people, as when married couples share a secret that they keep from others or when a person decides to confide in a friend and share a secret with them. Secrets may also be shared among the members of groups such as families or secret societies. Such shared secrets may serve a function that cannot be fulfilled by individual secrets. Shared secrets separate 'us' from 'them'; they mark an individual as a member of a dyad or group and identify this unit as a unique and special entity. Shared secrets may thus create and maintain intimacy and relatedness (Simmel, 1950; Karpel, 1980; Richardson, 1988; van Manen & Levering, 1996; Vangelisti, 1994). When secrets are shared, there is the risk of betrayal. Shared secrets therefore require reciprocal trust among its keepers. Therefore, if one shares a secret, this communicates trust. Furthermore, because sharing a secret can be construed as a form of self-disclosure, it could be assumed to benefit interpersonal relationships and social bonds (Collins & Miller, 1994). Goffman (1959) proposed that feelings of relatedness and cohesion increase when individuals believe that they share a secret. Bellman (1984) suggested that it is not the secret content as such that is crucial in increasing intimacy and relatedness among the secret-keepers. Rather it is the "doing secrecy" (p. 147), having the secret together and exchanging the secret information, that creates a feeling of relatedness among secret-keepers. According to Bellman (1984), feelings of intimacy and relatedness caused by sharing secrets are far more intense than those that are created by any other type of disclosure.

The Need to Belong

As you have undoubtedly noticed, much of what makes people keep secrets seems to revolve around the importance people place on attachment and connectedness. Secrecy serves to protect people from social disapproval, to protect or enhance their relationships, to enhance their image in the eyes of others, or to enhance intimacy and relatedness. This observation has led many authors to propose that underlying people's motives for secrecy is what Baumeister and Leary (1995) identified as a fundamental human need to belong (e.g., Afifi & Guerrero, 2000; Finkenauer, 1998; Kelly, 2002). Baumeister and Leary (1995) provide an abundance of evidence to support their suggestion that people have a fundamental need for frequent, non-aversive interactions within ongoing relational bonds. From our discussion

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of the possible functions of secrecy, it is clear that secrecy may serve belongingness needs in a variety of ways. The function of secrecy in maintaining belongingness is most clearly exemplified when secrecy conceals information that, if revealed, could lead to negative social consequences like social exclusion or ostracism, which make for a powerful threat to belongingness needs (e.g., Baumeister & Twenge, 2003; Williams, 2001).

It seems fair to conclude that secrecy is not only a social phenomenon in the sense that it happens between or among people, but also because it is motivated by social concerns and serves to develop, maintain, and protect interpersonal relationships and social bonds. Secrecy may thus serve belongingness needs. Interestingly, it may also serve people's need for independence and autonomy. Consider, for example, the case of two young lovers who secretly meet after school. Their secret may simultaneously strengthen their intimate bond, protect them and their relationship from social disapproval, and provide them with a sense of independence from their parents and a feeling of control over their lives.

What People Keep Secret

As mentioned earlier, virtually anything may be subject to secrecy. Because of the idiosyncrasies of the content of people's secrets it is impossible to provide a complete or thorough overview of what people keep secret. Indeed, even a brief examination of some of the research that has asked people to describe the content of their secrets yields an enormous variety in content (e.g., Last & Aharoni-Etzioni, 1995; Norton, Feldman, & Tafoya, 1974; Vangelisti, 1994; Vrij, Nunkoosing, Paterson, Oosterwegel, & Soukara, 2002; Yalom, 1970). We can, however, take a look at the kinds of information people tend to keep secret, that is, at the common themes that emerge in the secrets people report. A number of typologies of secrets have emerged from research among students (e.g., Wegner & Lane, 1995; Norton, Feldman, & Tafoya, 1974), psychotherapy clients (e.g., Hill, Thompson, Cogar, & Denman, 1993; Kelly, 1998), children (e.g., Last & Aharoni-Etzioni, 1995), and families (e.g., Vangelisti, 1994). Across typologies, there is one consistent finding. The majority of secrets pertain to information that is negatively valenced (Finkenauer & Rimé, 1998a). That is, people commonly report secrets that can be perceived as negative, shameful, or socially undesirable. Common themes include feelings or convictions of personal inadequacy and failure, a sense of interpersonal alienation, and a variety of sexual issues. Because secrecy is inextricably bound up with the idea of "having something to hide", secrets are commonly cast as negative, as involving something that is negatively appraised by the secret-keeper or society at large (e.g., Bok, 1989). As we have seen, secrets are suggested to protect information that is morally

negative and condemned by society (Warren & Laslett, 1977) and thus serve to avoid social disapproval (Wegner & Lane, 1995). Investigations of the content of secrets seem to confirm this negative view on secrets and secrecy. In research, secrecy has been associated with a wide variety of topics, including extramarital affairs (Baxter & Wilmot, 1985), incest (Bass & Thornton, 1991; Roesler & Wind, 1994), rape (Binder, 1981), battering (Fiene, 1995), substance abuse (Krestan & Bepko, 1993), HIV and AIDS (Black, 1993; Brown & DeMaio, 1992; Murphy, Roberts, & Hoffman, 2002), homosexuality (Warren & Laslett, 1977; Ullrich, Lutgendorf, & Stapleton, 2003), abortion (Major & Gramzow, 1999), and infertility (Schaffer & Diamond, 1993).

The Consequences of Secrecy

The literature on the potential functions of secrecy shows how people may benefit from secrecy. Research on the contents of secrets and people's reasons for keeping them suggests that people do expect to benefit from secrecy. However, theory and research on the consequences of secrecy suggest that these benefits may be bought at a considerable price, and that the costs of keeping secrets may even outweigh its benefits. To paraphrase Lane and Wegner (1995, p. 237), people keep secrets from others out of fear of the consequences of exposure, not realizing that the concealment itself can cause severe detriments. In the following, we will present two theoretical models that show how secrecy may give rise to detrimental consequences and address some of the research that shows that secrecy may indeed have deleterious physical, psychological, and social consequences.

Inhibition Theory

As discussed earlier, secrecy is an effortful process that involves active suppression or inhibition of feelings, thoughts, and behavior. To explain the harmful impact of such active inhibitory processes on physical and psychological well-being, Pennebaker (1985, 1989) introduced inhibition theory. This theory is based on the following propositions concerning inhibition: (1) To actively inhibit one's thoughts, feelings, or behaviors requires physiological work; (2) In the short run, active inhibition increases physiological arousal. In the long run, inhibition serves as a cumulative stressor, which increases the probability of illness, such as heart disease, cancer, or ulcers, and other stress-related physical and psychological problems; (3) Active inhibition is also associated with potentially deleterious changes in information processing. In holding back significant thoughts and feelings associated with an event, individuals typically do not process the event fully. Consequently, significant experiences that are inhibited are likely to surface in the forms of ruminations, obsessive thinking, and

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associated cognitive symptoms. Conversely, Pennebaker (1985, 1989, 1997) proposes that confiding the perceptions and feelings associated with an emotional experience negates the effects of inhibition, both physiologically and cognitively: (1) Confiding immediately reduces the physiological work of inhibition. Over time, if individuals continue to confront and thereby resolve their experience, the overall physiological work is reduced, thereby lowering the overall stress level: (2) Confiding helps people to understand and ultimately assimilate the experience. It allows for the integration or cognitive reorganization of the experience and helps to attain closure.

The Preoccupation Model of Secrecy

Lane and Wegner's (1995; Wegner & Lane, 1995) preoccupation model of secrecy focuses on ironic mental processes as a cause of the harmful consequences of secrecy. Like Pennebaker (1985, 1989), these authors suggest that keeping secrets is hard work that requires behavioral inhibition and mental control. This mental control consists of the suppression of secret-related thoughts. Lane and Wegner suggest that secrecy sets off a set of cognitive processes that result in obsessive preoccupation with the secret. The model assumes that secrecy starts with intentional thought suppression. This suppression of secret-related thoughts then leads to intrusive thoughts about the to-be-kept secret material through ironic mental processes (Wegner, 1992, 1994). These secret-related intrusive thoughts, in turn, lead to renewed efforts of thought suppression. Subsequently, thought suppression and intrusive thoughts occur each in response to the other, causing a vicious circle that may lead to an obsessive and disturbing preoccupation with the secret material (Lane & Wegner, 1995; Wegner & Lane, 1995; Wegner, Lane, & Dimitri, 1994). This obsessive preoccupation with the secret may ultimately cause psychopathology (Wegner & Lane, 1995; see also Newt & Rachman, 2001).

Findings on the Consequences of Secrecy

Empirical investigations of the consequences of secrecy have linked secrecy with a variety of detriments (e.g. Finkenauer & Rimé, 1998b; Ichiyama et al., 1993; Kelly & Achter, 1995; Lane & Wegner, 1995; Larson & Chastain, 1990; Pennebaker & Susman, 1988). For example, Larson and Chastain (1990) found that the dispositional tendency to keep secrets, which they labeled "self-concealment," contributed to physical complaints, anxiety, and depression, even after accounting for other explanatory variables such as self-disclosure and traumatic experiences. Besides the tendency to self-conceal, actual concealment of personal information has been linked to problems (e.g., Cole, Kemeny, Taylor, & Visscher, 1996; Major & Gramzow, 1999). For example, concealment of homosexual identity among HIV-

seropositive gay men has been associated with increased physical health risk, depressive symptoms, and strained social relationships (Cole, Kemeny, Taylor, & Visscher, 1996; Ullrich, Lutgendorf, & Stapleton, 2003). Similarly, Finkenauer and Rimé (1998b) found that emotional secrecy contributed to physical complaints above and beyond the confounding influence of negative affectivity, a personality trait that is associated with high reports of physical complaints. That is, keeping *one* emotional secret predicted a higher incidence of physical complaints. Among adolescents, secrecy from parents has been associated with physical complaints and depressive mood (Finkenauer, Engels, & Meeus, 2002). Finally, secrecy in families has been linked to dissatisfaction with relationships (e.g., Caughlin et al., 2000; Golish, 2000; Vangelisti, 1994).

Indirect evidence of secrecy's possible detrimental effects comes from research on disclosure. In an overwhelming amount of research, talking or writing about upsetting or traumatic experiences as opposed to concealing them has been associated with improved physical health (Pennebaker & Beall, 1986; Pennebaker, Colder, & Sharp, 1990), immune function (Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994; Petrie, Booth, Pennebaker, Davison, & Thomas, 1995) and psychological well-being (Francis & Pennebaker, 1992; Greenberg, Wortman, & Stone, 1996; for a review see Smyth, 1998).

In short, research on secrecy seems to confirm a negative view of secrets. Findings indicate that keeping secrets is linked with a wide range of drawbacks, including physical, psychological, and social adversity.

Challenges and Goals

Empirical evidence concerning the consequences of secrecy has been accumulating over the past decades. As we have seen, this evidence seems to converge to suggest that secrecy can be a dangerous undertaking. Secrecy has been associated with a wide range of physical, psychological, and social detriments. However, our knowledge of the consequences of secrecy is still limited and there is a lot of work still to be done. In the following, we will identify a number of gaps in our knowledge and identify some issues that have not yet received the attention that we believe they deserve.

Secrecy: Cause or Effect?

Because of ethical constraints, experimental research offers limited possibilities to investigate the consequences of secrecy. Researchers investigating the harmful effects of secrecy cannot make healthy people sick by asking them to keep a secret. Experimental research is hence restrained to studies that examine the link between disclosure and well-being. Yet, when studies indicate that disclosure improves well-being (e.g.,

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Pennebaker, Kiecolt-Glaser, & Glaser, 1988), they do not necessarily indicate that secrecy has the reverse effect (cf. Finkenauer & Hazam, 2000). On the contrary, the onset and the reduction of psychosocial problems may actually reflect very different processes (cf. Davison & Pennebaker, 1996). So, rather than showing that disclosure is beneficial, studies need to show that secrecy is harmful. As we have seen, a number of researchers have investigated the detriments of secrecy. However, most studies have used cross-sectional designs (for an exception see Cole et al., 1996). While they showed that secrecy correlates with psychosocial and physical problems (e.g., Finkenauer & Rimé, 1998b; Larson & Chastain, 1990), it remains yet to be shown that secrecy is a cause rather than a consequence of these problems. Given the ethical restrictions surrounding experimental studies on secrecy, longitudinal, prospective studies need to show that secrecy is harmful for well-being on sound methodological grounds. A first aim of the research presented in this dissertation is to do just that: To investigate the longitudinal associations between secrecy and well-being and examine secrecy's longitudinal contribution to psychosocial problems. This aim will be addressed in chapters 2 and 5.

It Takes Two to Tango: Considering Secret-targets

Although Lane and Wegner (1995) suggest that secrecy can be done alone in a room (p. 237), it is clear that it usually involves at least two parties, a secret-keeper and a secret-target. It is, as we have stressed repeatedly, a social phenomenon that happens between people. However, the interpersonal consequences of secrecy have been largely overlooked. The overwhelming majority of research on secrecy has focused on its (intrapersonal) consequences for the secret-keeper, such as cognitive consequences (e.g., Lane & Wegner, 1995) or physical and psychological problems (e.g., Finkenauer & Rimé, 1998b; Larson & Chastain, 1990). Studies that address the social consequences of secrecy have mostly focused on one individual, the secret-keeper, and have linked individuals' reports of secrecy or topic avoidance with their own relational satisfaction or feelings of loneliness (Caughlin et al., 2000; Finkenauer, Engels, & Meeus, 2002). However, for a full understanding of the interpersonal implications of secrecy, it is necessary to examine its impact on the target of secrecy. Recent studies that have addressed this issue suggest that secrecy is viewed more negatively by targets than by keepers and that being in the secret-target position reduces relational satisfaction and may elicit feelings of rejection (e.g., Caughlin & Golish, 2002; Finkenauer & Hazam, 2000). Thus, it seems necessary to further investigate targets reactions to (their perceptions of) secrecy. This is the second aim of the research presented in this dissertation: To further investigate the relational

consequences of secrecy by examining its impact on targets' behavior towards the secret-keeper. This aim will be addressed in chapter 3.

Reducing Focus on Negative Consequences

Research has focused mainly on negative aspects of secrecy. Biased by secrecy's unsavory reputation, studies have used dependent variables that assessed its harmful effects, such as physical complaints (Pennebaker & Beall, 1986) or depression (Larson & Chastain, 1990). However, indicators of psychosocial problems and well-being are partly independent. To illustrate, Lewinsohn, Redner, and Seeley (1991) showed that well-being "is related to depression, it covaries with depression, but it is not reducible to depression" (p. 163). The focus on measures sensitive to detect psychosocial problems may have painted a picture of secrecy as being more harmful than it deserves. In line with this suggestion, secrecy from parents was related to depression, but also to emotional autonomy in adolescence (Finkenauer, Engels, & Meeus, 2002). Hence, to examine the consequences of secrecy more fully, studies need to incorporate measures sensitive to both harmful and possible beneficial effects of secrecy. In the research presented in this dissertation, we have attempted to include such measures.

Another factor that may have contributed to the abundance of findings showing detrimental effects of secrecy is the predominant focus on secrets that people keep all to themselves. We will consider this issue next.

All Secrets are Equal? Considering Shared Secrets

The literature on secrecy tends to treat all secrets alike. Findings on the detrimental consequences of secrecy have led to the generally accepted conclusion that secrecy is harmful. Underlying this conclusion is the assumption that all secrets are equal: They consist of information that one person conceals from everybody else and that is traumatic and negative. Yet, ample examples of secrets do not fit this description, such as secrets shared among family members but kept from outsiders or secrets adolescents keep from their parents but share with their friends (cf. Finkenauer, 1998). As our discussion of the possible functions of secrecy makes clear, beneficial effects of having a secret may be most readily found when considering such shared secrets. We have discussed how shared secrets may enhance intimacy, relatedness, and trust, and may thus benefit relationships. However, most research on secrecy focuses on individual secrets, on secrets that people keep all to themselves. The detrimental effects that have been found in research on individual secrets may be less likely to occur when secrets are shared. One can easily imagine that keeping a secret all by oneself is more stressful than sharing a secret with a friend. Individual secrets should thus be more harmful than shared

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secrets. The assumption that all secrets are equal and the neglect of shared secrets in favor of individual secrets in research may thus have resulted in an undeservedly negative view of secrets. A final aim of the research presented in this dissertation is to investigate the differential effects of individual and shared secrets. This aim will be addressed in chapter 4.

The Present Research

The central aim of this dissertation is to investigate the consequences of secrecy. The research presented in the following chapters examines these consequences in the context of adolescence. The use of adolescent samples in our research is a legacy of the project that gave rise to the present dissertation. This project originated in developmental psychology but subsequently shifted to social psychology. We would like to point out that most of our hypotheses concerning the consequences of secrecy are general in that they apply to people in general. Although the adolescent samples may limit the generalizability of the findings, some of which may be specific to adolescence, we feel confident that many of the consequences of secrecy occur among adolescents and adults alike. In many respects, our adolescent samples should be just as representative of people in general as are the late adolescent or early adult student populations that dominate much of social psychological research. This is not to say that our use of adolescent samples is merely a triviality. On the contrary, although secrecy in adolescence has received little attention from researchers, adolescence may be the period par excellence for the study of secrecy. The reasons for this suggestion are twofold. On the one hand, there are grounds for assuming that secrets may be especially abundant in adolescence. On the other hand, there are grounds for suspecting that secrecy may be especially important in adolescence. That is, secrecy may serve a variety of important developmental functions in adolescence while it may also produce a wide variety of detrimental consequences. In the next section, we will briefly address these issues of secrecy in adolescence.

Secrecy in Adolescence

Adolescence, more than any other stage in the life span, deals with the development of the self, social relationships, and the self in social relationships (Hartup, 1996; Paul & White, 1990; Petersen & Hamburg, 1986). The developmental tasks in adolescence include the development of a stable autonomous identity (Blos, 1967; Erikson, 1968), the attainment of independence from parents (Steinberg & Silverberg, 1986), and the formation and maintenance of own social networks outside the family (Grotevant & Cooper, 1986). In our discussion of the functions of secrecy, we have seen how secrecy may be employed to facilitate the accomplishment of these tasks. However, secrecy is not child's play:

Research provides ample evidence that it may give rise to a wide variety of detrimental consequences.

Developmental tasks in adolescence cause social turmoil: Romantic and sexual relationships gain importance (Paul & White, 1990). Having a friend to confide in becomes a social achievement for adolescents and an indicator of social competence (Buhrmester, 1990; Hartup, 1996). In light of these social changes, adolescents become particularly vulnerable to feelings of social inadequacy and failure (Seiffge-Krenke, 1998). They are "sometimes morbidly, often curiously, preoccupied with what they appear to be in the eyes of others" (Erikson, 1959, p. 80). For example, adolescents often feel it is undesirable to admit their shortcomings, because they suffer from "the fallacy of uniqueness" (Pine & Aronson, 1981, p. 35). They falsely assume that "everybody else" is coping effectively and they alone are failing. Keeping their shortcomings secret for fear of social rejection or ridiculization may backfire in that it may lead to feelings of loneliness, stress, and depression. Adolescence thus confronts young people with the challenge of developing a sense of self in a situation of social change and uncertainty. They have to develop intimate relationships and try to avoid being different while striving for autonomy and a sense of self and identity.

To sum up, increased concern with self-presentation and fear of social rejection may lead adolescents to keep many secrets. They may employ secrecy in an attempt to balance the seemingly incompatible tasks of becoming autonomous and developing (their skills in managing) intimate relationships (e.g., keeping a secret from their parents but share it with their best friend). In doing so, they may on the one hand attain an independent and autonomous sense of self, increase their social skills, and form healthy relationships. On the other hand, they may be exposing themselves to the harmful consequences of secrecy in an already vulnerable developmental period. Adolescence may thus provide a unique opportunity to study a broad range of both harmful and beneficial consequences of secrecy. Before turning to the studies that are at the heart of this dissertation, we will provide a brief overview of what to expect in the following chapters.

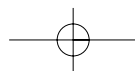
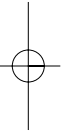
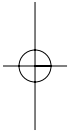
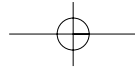
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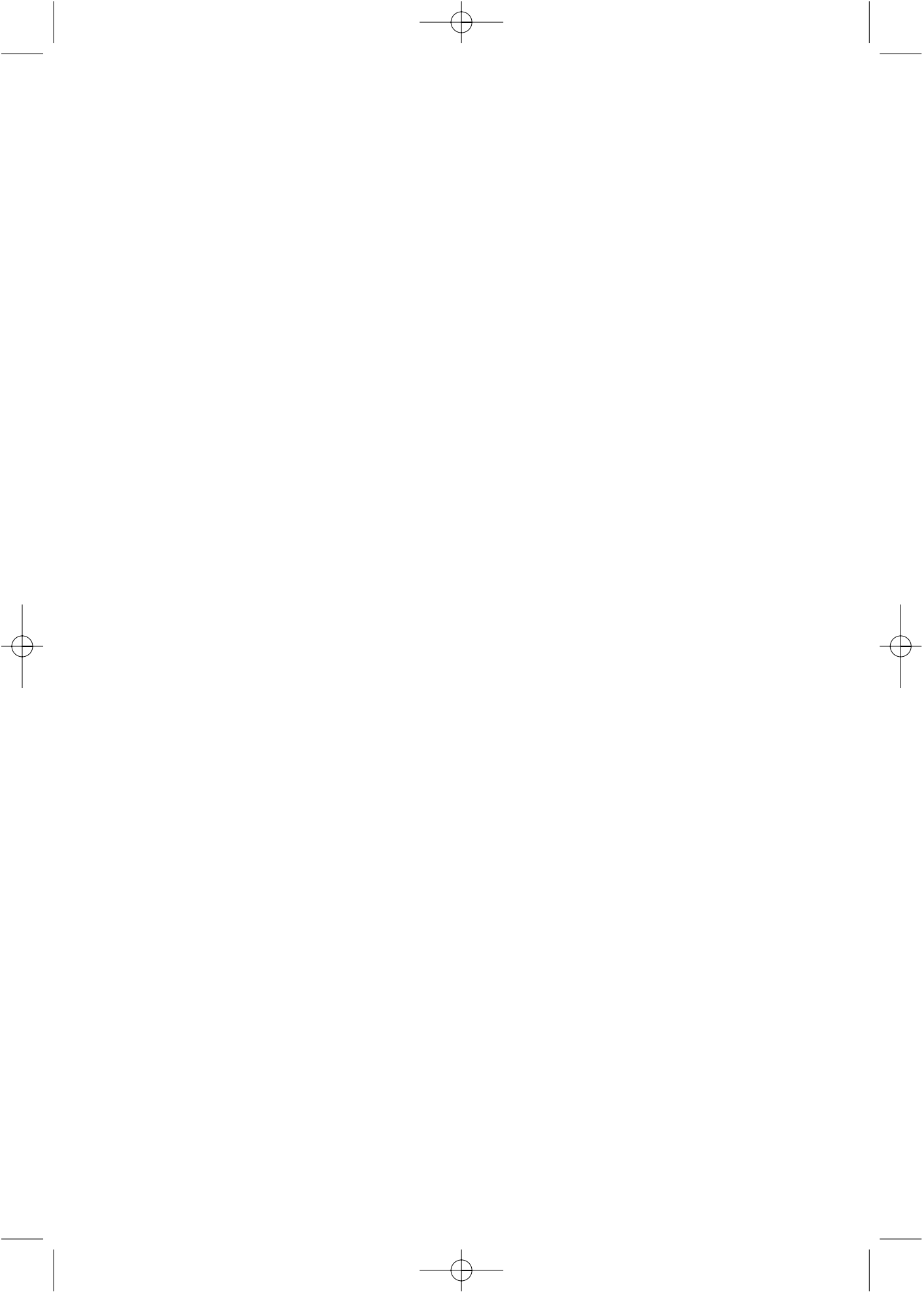
The following empirical chapters are divided into two parts. The first part focuses on the investigation of the intra- and interpersonal consequences of secrecy from parents in adolescence. In Chapter 2, a two-wave longitudinal survey study will be presented that examines the consequences of keeping secrets from parents for adolescents' psychosocial well-being and adjustment. In Chapter 3, two studies will be presented that focus on the other side of the coin, that is, on the consequences of secrecy for the targets of secrecy. The studies presented in this chapter explore the links

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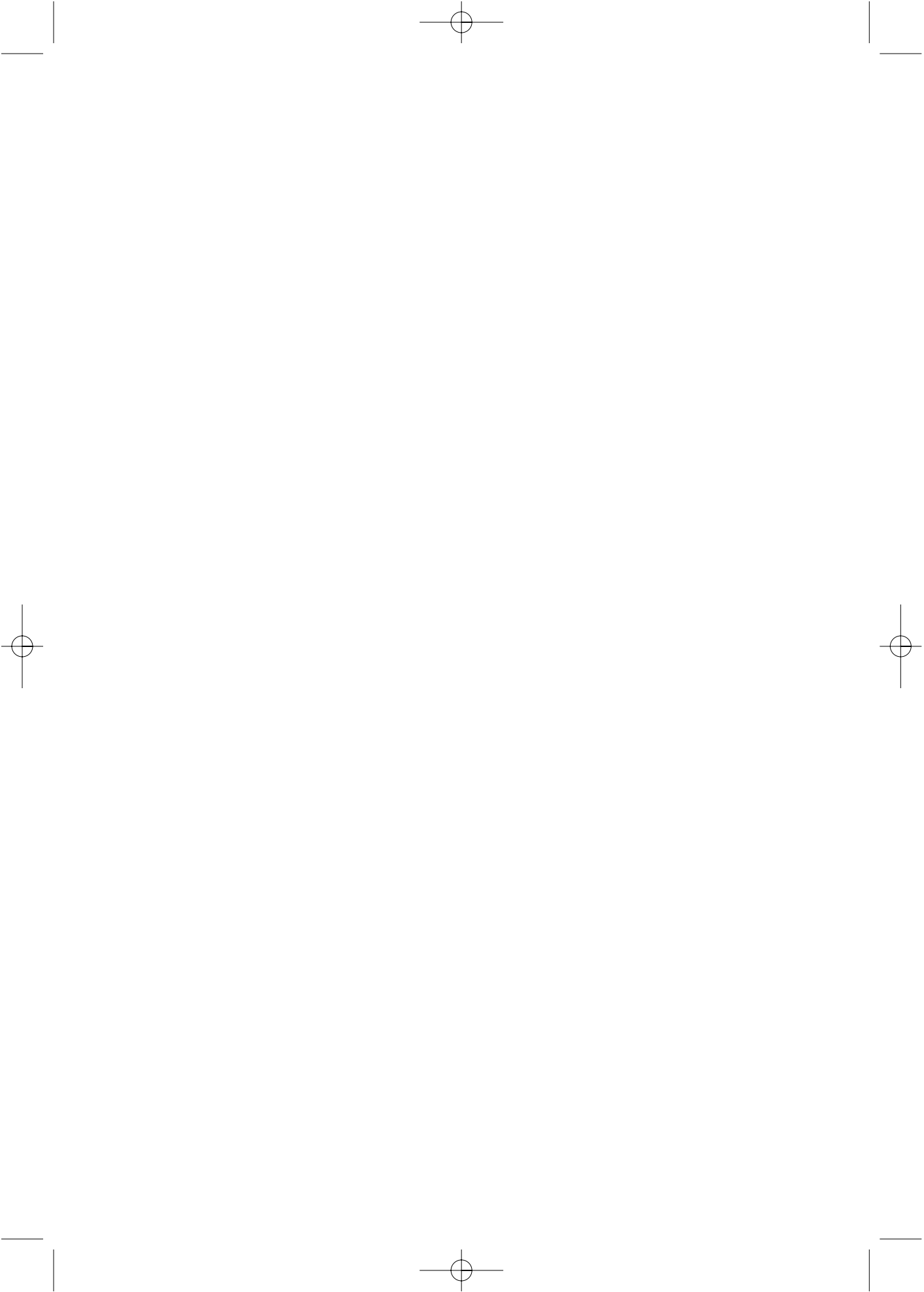
between adolescents' concealment from parents, parental perceptions of their child's concealment, and parental behavior towards their child. In the second part of this dissertation, the attention shifts from studying secrecy from parents to examining the specific secrets that adolescents keep. Chapter 4 presents three studies that compare two types of secrets: Individual secrets and shared secrets. Studies 4.1 and 4.2 compare the contents of these two types of secrets, while study 4.3 examines their links with well-being and adjustment. The study presented in Chapter 5 examines the longitudinal associations of keeping an individual secret with well-being and adjustment. It also investigates whether confiding a secret leads to increased psychosocial well-being and adjustment. In the final chapter, Chapter 6, we will briefly summarize the major findings and discuss their theoretical and practical implications. We will also suggest some possible directions for future research.

Finally, a word to the wise: The reader who is interested in specific chapters or has a short attention span should note that the empirical chapters that make up the two parts of this book were written as separate papers to be submitted for publication in scientific journals, and can therefore be read independently. The avid reader may find similarities between chapters and will encounter repetitions, especially in the introduction sections.





PART I
Intra- and Interpersonal
Consequences of Secrecy
from Parents in Adolescence



Chapter 2

Keeping Secrets from Parents: Longitudinal Associations of Secrecy in Adolescence²

Secrecy is a common social phenomenon. Most of us have kept secrets from others at one time or another, and we believe it is safe to say that we all have had secrets kept from us. Mastering the art of secrecy seems to be a part of normal development (Peskin, 1992; Pipe & Goodman, 1991; Watson & Valtin, 1993), and the ability to conceal information from others appears to be an adaptive skill in managing our social interactions (e.g. Simmel 1950; Schlenker & Weigold, 1992). Nevertheless, psychologists have long since regarded secrecy a dangerous undertaking, one that is stressful and burdensome to the secret-keeper (e.g. Finkenauer & Rimé, 1998a, b; Lane & Wegner, 1995; Larson & Chastain, 1990; Pennebaker & Susman, 1988). However, recent evidence of a link between secrecy and feelings of emotional autonomy among adolescents suggests that there may also be a positive side to secrecy (Finkenauer, Engels & Meeus, 2002), because it may contribute positively to adolescent development. The present study builds upon previous findings on the consequences of secrecy in adolescence. Its objectives are fourfold. First, it aims to provide further evidence of psychosocial disadvantages of secrecy in adolescence. Second, it aims to extend our knowledge of secrecy's disadvantages in adolescence by including measures of behavioral problems. Third, it aims to further investigate secrecy's possible contribution to adolescent development by examining its relation to feelings of self-control in adolescence. Fourth, it aims to investigate the predictive power of secrecy from parents by examining its advantages and disadvantages in adolescence longitudinally.

Definition of Secrecy

In this paper, we define secrecy as the intentional concealment of personal information from others (cf. Bok, 1989; Kelly, 2002). As we see it, secrets consist of information that (at least) one person actively and consciously withholds from (at least) one other person. There are two aspects of secrecy that can be assumed to play a role in determining its consequences for the secret-keeper. One is the specific content of a secret, the other is the fact that a secret is kept per se (Finkenauer, 1998). It seems obvious that the effects of concealing information should depend on the type of information that is being concealed. However, the empirical investigation of the secret content poses an ethical dilemma. Secrets, by definition, concern information that people, for one reason or the other, do not want to or cannot reveal to others. Researchers investigating the content of secrets want or need secret-keepers to reveal their secrets. Furthermore, it is the act of concealment itself that defines secrecy and should be an important determinant of its effects (cf. Finkenauer, 1998; Kelly, 2002). Most empirical research on secrecy therefore focuses on the secrecy as such, and

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abundant findings support that secrecy, independent of the specific content of a secret, may have harmful effects for the secret-keeper (e.g., Finkenauer et al., 2002; Ichiyama et al., 1993; Lane & Wegner, 1995; Larson & Chastain, 1990). Secrecy involves purpose and intent, and thus requires that secret-keepers actively and deliberately engage in behavior that protects the secret information and prevents others from finding out about it (e.g., omission, deception, lying, distraction, inhibition, thought suppression). Therefore, secrecy is not merely the opposite of self-disclosure (i.e., sharing personal information with others). In the present study, we were interested in examining the effects of keeping secrets from parents in adolescence rather than specific secret-contents.

The Dark Side of Secrecy

Secrecy is generally regarded as problematic and negative. Keeping secrets means you have something to hide, something censurable or shameful. Like a self-inflicted disease, secrecy is assumed to compromise mind and body, ultimately causing great harm to the keeper's physical and psychological well-being. Research among adults seems to substantiate this negative view of secrecy (e.g. Finkenauer & Rimé, 1998b; Lane & Wegner, 1995; Larson & Chastain, 1990; Pennebaker & Susman, 1988). For example, Larson and Chastain (1990) found that the dispositional tendency to keep secrets, which they labeled "self-concealment," contributed to physical complaints, anxiety, and depression, even after accounting for other explanatory variables such as self-disclosure and traumatic experiences. These disadvantages of secrecy seem to hold in adolescence, where secrecy from parents has been associated with physical complaints and depressive mood (Finkenauer et al., 2002). However, the disadvantages of secrecy in adolescence may extend beyond the psychosocial disadvantages commonly studied among adults. Adolescence is a turbulent period fraught with many problems (Arnett, 1999). Besides emotional problems, such as depressive mood, adolescents often display behavioral problems, such as aggression, and these two types of problems tend to co-occur (Overbeek, Vollebergh, Meeus, Engels, & Luijpers, 2001). Behavioral problems such as violence and delinquency increase sharply during adolescence and the period of adolescence is characterized by a peak in antisocial behavior (Moffitt, 1993). Could secrecy contribute to this increment in behavioral problems in adolescence? To answer this question, this study examines secrecy's associations with aggressive behavior and delinquency in adolescence.

A Brighter Side of Secrecy?

Although secrecy's possible advantages have been neglected in favor of its disadvantages in research, the literature provides suggestions of secrecy's beneficial qualities (e.g., Kelly, 1998; Simmel, 1950). Most importantly in

light of the present study, secrecy has been proposed to facilitate adolescent development (Margolis, 1966; Simmel, 1950; Van Manen & Levering, 1996). Adolescents' passage from childhood into adulthood requires that they take more responsibility for themselves, rather than relying on their parents. To achieve this developmental goal, they need to gain autonomy and independence from their parents and master self-regulation and self-determination (e.g. Allen, Hauser, Bell, & O'Connor, 1994; Larson, Richards, Moneta, Holmbeck, & Duckett, 1996; Steinberg & Silverberg, 1986). Secrecy may facilitate the accomplishment of these developmental tasks in a number of ways. Because secrecy, by nature, separates those who know from those who do not know, it may promote independence and autonomy. Some evidence for this suggestion was provided by Finkenauer et al. (2002), who found that secrecy from parents was related to emotional autonomy in adolescence. Furthermore, keeping a secret requires self-control and personal choice, which are considered as indicators of the development of self and autonomy (Flammer, 1991; Margolis, 1966). In keeping a secret, one needs to decide to whom the secret should or should not be revealed and, when deciding to conceal the secret, one needs to monitor one's thoughts and actions and restrain oneself from involuntarily spilling the secret and giving it away. In this way, secrecy may foster the capacity to inhibit or override urges, behaviors, and desires, in other words, the capacity for self-control (Muraven & Baumeister, 2000; Tangney, Baumeister, & Lizio Boone, 2004). Thus, secrecy should contribute to mastering self-regulation by enhancing adolescents' capacity to exert self-control.

The Predictive Power of Secrecy

Studies on the disadvantages and advantages of secrecy in adolescence are cross-sectional. Although the evidence indicates that secrecy is associated with disadvantages in both adulthood and adolescence, and with some advantages in adolescence, it is yet to be determined whether secrecy is a determinant of well-being and adjustment in the long run. The present study attempts to fill this gap in our knowledge by examining secrecy's predictive power regarding adolescent psychosocial well-being, behavioral problems, and self-control. Specifically, we focused on adolescents' secrecy from parents during their first year of secondary education. This period appears especially relevant, because school transition confronts young adolescents with major academic and social changes (e.g., Eccles, Lord, & Buchanan, 1996; Higgins & Parsons, 1983; Simmons & Blyth, 1987). These changes may place stress on young adolescents (e.g., Isakson & Jarvis, 1999). In the immediate aftermath of this school transition, early adolescents show increased anxiety (Cotterell, 1992; Harter, Whitesell, & Kowalski, 1992), increased self-consciousness and concern with self-

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presentation, and decreased self-esteem (Eccles et al., 1989; Simmons, Rosenberg, & Rosenberg, 1973). Research indicates that after the first year most of these indicators have returned to their baseline (Coterell, 1992). Given the heightened self-presentational concerns that accompany social changes in the first year, secrecy may bear particular importance in this period of psychosocial turmoil. In the present study, data were collected at two waves within the first year of secondary education to examine the longitudinal contribution of secrecy from parents to adolescent psychosocial well-being and adjustment over the course of this turbulent year.

Alternative Explanations

Because secrecy from parents taps into communication in the adolescent-parent relationship, the study of its consequences may be confounded by other communication characteristics, such as the amount of disclosure towards parents. By definition, a piece of information that is kept secret is not disclosed. However, in everyday life, people often share information and keep secrets at the same time. For example, an adolescent girl may tell her parents about her day at school while keeping the fact that she received a bad grade secret. Although secrecy and disclosure are obviously related, they should be considered distinct constructs (cf. Larson & Chastain, 1990; Finkenauer et al., 2002). To investigate the consequences of secrecy above and beyond disclosure, it is necessary to take into account the extent to which adolescents communicate with their parents.

In some cases, adolescents may perceive their parents as unsupportive or unavailable, or may not trust their parents to respect their feelings. In these cases, observed disadvantages of secrecy from parents may actually be more reflective of a bad relationship with parents than of the influence of keeping secrets from them. Therefore, to identify the effects of secrecy, it is necessary to take into account the extent to which adolescents trust their parents and perceive them as supportive.

Overview

This study is the first to investigate the disadvantages and advantages of secrecy from parents in adolescence longitudinally. It contributes to the existing literature by extending the scope of research on secrecy's disadvantages, which has hitherto been limited to physical and psychological detriments, to include behavioral problems. Furthermore, it investigates secrecy's possible contribution to adolescent development by examining its relation to self-control in adolescence.

To investigate the disadvantages and advantages of secrecy from parents for adolescent well-being and self-control, we conducted a longitudinal study among 1173 young adolescents. Figure 2.1 depicts the hypothesized influence of secrecy from parents on adolescent problems and adjustment.

We predicted that the psychological disadvantages of secrecy found among adults and adolescents (i.e., low self-esteem, depressive mood, and stress) would hold longitudinally in adolescence, even when controlling for existing psychological problems.

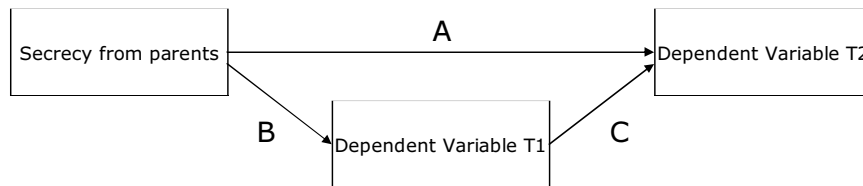


Figure 2.1. Path diagram: Influence of secrecy from parents on changes in dependent variables.

We extended the investigation of secrecy's disadvantages by examining secrecy's relation to problem behaviors (i.e., aggressive behavior and delinquency). Finally, we predicted that secrecy from parents should be related to increased feelings of self-control in adolescence. To disentangle the influence of secrecy from that of possible confounding variables, we included a number of parent-related variables (i.e., communication with parents, trust in parents, and perceived parental supportiveness) in our model of secrecy's influence on adolescent problems and adjustment (see Figure 2.2).

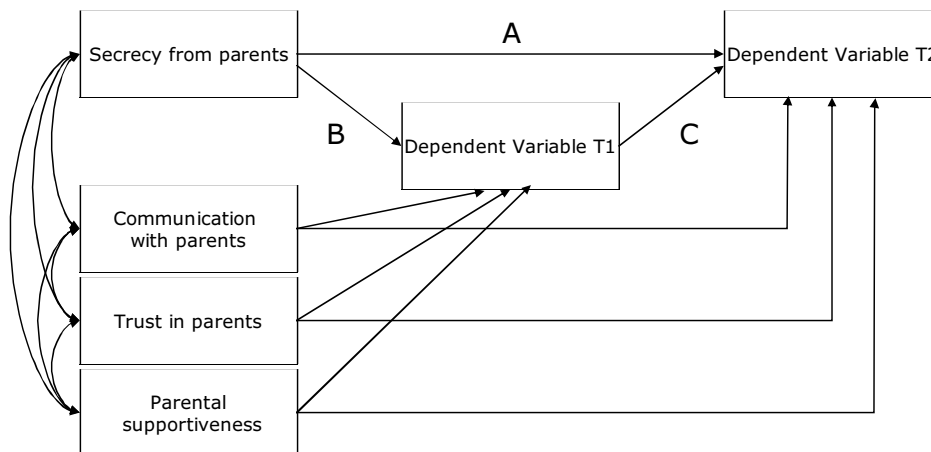


Figure 2.2. Path diagram: Influence of secrecy from parents, communication with parents, trust in parents, and perceived parental supportiveness on changes in dependent variables.

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Method

Procedure and Sample Characteristics

Data for analyses were derived from a large-scale longitudinal survey among 10-14-year old adolescents in the Netherlands. A total of 6 schools in the regions of Utrecht and Apeldoorn participated in the study. All students of the first grade of secondary education of these schools were included with a total of 45 classes. Before the questionnaires were administered, parents were informed about the aims of the study and could return a form stating that they did not want their child to participate (although some parents called the institute for additional information, none of the parents returned this form). In addition, parents could request to receive a summary of the outcomes of the study.

The first wave of data collection (T1) was conducted in the winter of 2000. The questionnaires were filled out in the classrooms in the presence of a teacher, who had received instructions on how to administer the questionnaire. Also, teachers ensured that confidentiality and anonymity were rigorously respected. No explicit refusals were recorded; non-response was exclusively due to the adolescent's absence at the day of assessment. A total of 1,357 adolescents participated at T1.

The second wave of data collection (T2) was conducted 6 months after T1 in the summer of 2001. Questionnaires were administered among adolescents following procedures similar to those used in the first wave. A total of 1,215 (89%) adolescents participated at T2. Again, no explicit refusals were recorded; non-response was exclusively due to the adolescent's absence at the day of assessment.

Attention was drawn to the confidentiality of responses (see Botvin & Botvin, 1992). The letters of introduction and the questionnaires emphasized privacy aspects, and clearly stated that no information about the specific responses of participants would be passed on to teachers or parents. No anonymous questionnaires could be used due to the fact that we matched numbers and participants' names for the follow-up surveys. Even so, matching of numbers and names was only done by the principal researcher. In order to motivate respondents to participate, adolescents were included in a lottery in which CD certificates could be won.

Because our analyses require reports from adolescents at both waves of data collection, we only used data of adolescents who were enrolled in both waves of the study, and whose questionnaires at T1 and T2 could be matched. Overall, 1173 adolescents (86% of the initial sample) provided complete data.

In total, 602 (51%) boys and 571 girls participated in this study. The mean age of the adolescents was 12.3 years ($SD = 0.52$). The majority of adolescents (96%) were born in the Netherlands. The majority of

adolescents (88.6%) lived with two parents, 8.6% lived with their mother, 1% lived with their father, and 1.8% lived with other family members or in institutions.

Questionnaires

Adolescents received a large battery of questionnaires. Only those questionnaires relevant to the questions addressed in this paper will be presented here. Results pertaining to the remaining parts of the questionnaire are reported elsewhere (Engels, Custers, & Hale, 2003; Harakeh, Scholte, Vermulst, De Vries, & Engels, 2003).

Secrecy from parents. To assess secrecy from parents, we used an adapted version of Larson and Chastain's Self-Concealment Scale (SCS, Larson & Chastain, 1990; adapted and translated into Dutch by Finkenauer et al., 2002). The original SCS consists of 10 items assessing (a) the tendency to keep things to oneself, (b) the possession of a secret or negative thoughts not shared with others, and (c) the apprehension of the revelation of concealed personal information (for information on the psychometric properties of the SCS, see Larson & Chastain, 1990; Cramer & Barry, 1999). In the adapted version, parents were added as the target of adolescents' secrecy to each of the original items. The items "My secrets are too embarrassing to share with others" and "I have negative thoughts about myself that I never share with anyone," for example, became "My secrets are too embarrassing to share with *my parents*" and "I have negative thoughts about myself that I never share with *my parents*," respectively. Confirming the construct validity of the used secrecy from parents scale, Frijns & Finkenauer (2002) showed that the scale predicted whether adolescents were actually keeping a specific secret from their parents at the time of their study. Adolescents rated all items on a scale ranging from 1 (*not at all*) to 5 (*extremely*). In our study, the scale had high internal consistency (Cronbach's $\alpha = .87$). Adolescents' ratings were averaged to establish a secrecy from parents score; higher values indicated greater secrecy. This scale was administered at T1 only.

Self-esteem. Rosenberg's (1965) self-esteem scale assessed adolescents' perceived self-value or sense of worth (e.g., "Sometimes I feel that I am completely useless," "In general I am happy with myself"). This scale is often taken as an indicator of psychosocial adjustment among adolescents (Kahle, Kulka, & Klingel, 1980). The scale consists of 10 items and responses were given on a scale ranging from 1 (*very descriptive of me*) to 4 (*not at all descriptive of me*). The Rosenberg scale was administered at both waves and, like in previous studies, it had high internal consistency (Cronbach's $\alpha = .79$ and $.83$ at T1 and T2, respectively).

Depressive mood. Kandel and Davies' (1982) 6-item Kandel Depression Scale was used to assess depressive mood. Adolescents rated the frequency

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(0 = *never*; 4 = *always*) with which they experienced symptoms of depressive mood such as feeling nervous and tensed (Cronbach's $\alpha = .78$ and $.80$ at T1 and T2, respectively). Their responses were averaged to yield a depressive mood score; higher values indicated more frequent feelings of depression.

Stress. A short form of the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) was employed to measure the degree to which adolescents perceived their lives to be unpredictable, uncontrollable, or overloaded in the past month (e.g., "Have you been upset because something unexpected happened," "Have you had the feeling that important matters in your life were beyond your control"). The 11 items were rated on a scale ranging from 1 (*never*) to 5 (*very often*). Responses were averaged to yield a stress score; higher scores were associated with increased levels of stress. The scale had high internal consistency (Cronbach's $\alpha = .80$ and $.82$ at T1 and T2, respectively).

Aggressive behavior. We assessed aggressive behavior by means of a subscale from the Dutch version of the Youth Self-Report (Achenbach, 1991; Verhulst, Ende, & Koot, 1996). The subscale consists of 8 items tapping explicit aggressive behavior over the last six months. Item examples are "I fight a lot" or "I destroy other people's things." Adolescents rated the items on a 3-point scale (0 = *does not apply to me at all*, 1 = *sometimes applies to me*, 2 = *often applies to me*). The internal consistency of the scale in our study was Cronbach's $\alpha = .69$ and $.76$ at T1 and T2, respectively.

Delinquency. We assessed self-reported delinquency using 14 items derived from a widely employed Dutch instrument measuring the frequency with which adolescents engage in petty crime (e.g., Baerveldt & Snijders, 1994; Houtzager & Baerveldt, 1999). These items assess how many times in the past 12 months adolescents had committed minor offences, such as shoplifting and petty theft, commonly measured in the literature (see also, Kerr & Stattin, 2000). Response categories ranged from 1 (*never*) to 4 (*4 times or more*). The total number of offenses was used as a scale with high internal consistency (Cronbach's $\alpha = .82$ and $.93$ at T1 and T2, respectively).

Self-control. To assess self-control, a shortened version of the self-control scale developed by Tangney, Baumeister, and Luzio Boone (2004) was employed. The self-control scale aims to assess people's ability to control their impulses, alter their emotions and thoughts, and to interrupt undesired behavioral tendencies and refrain from acting on them (for a review on the conceptualization see Muraven & Baumeister, 2000; for information on the reliability of the Dutch translation see Van Duijn, 2000; Van Kooten, 2000). The shortened version consists of 8 items rated on a scale ranging from 1 (*not at all*) to 5 (*very much*). Item examples are "I

have trouble concentrating" (reverse scored) or "I am lazy" (reverse scored). Responses were averaged to yield a self-control scale with higher values indicating greater feelings of self-control. In our study, the internal consistency of the shortened scale was Cronbach's $\alpha = .67$ and $.70$ at T1 and T2, respectively.

Communication with parents. To assess the extent to which adolescents communicate with their parents, we used the Communication subscale of the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987). This scale consists of 8 items, 4 items for each parent (e.g., "I tell my mother/father about my problems and worries"). Response categories ranged from 1 (*never*) to 5 (*always*). The scale was administered at T1 only and had high internal consistency (Cronbach's $\alpha = .82$).

Trust. The Trust subscale of the IPPA was used to measure the degree to which adolescents trust their parents. This subscale of the IPPA is indicative of the relative degree of perceived parental security by adolescents. This scale consists of 8 items, 4 items for each parent (e.g., "My mother/father accepts me the way I am"). Response categories ranged from 1 (*never*) to 5 (*always*). The scale was administered at T1 only and had high internal consistency (Cronbach's $\alpha = .80$).

Parental supportiveness. To assess adolescents' perceptions of parental supportiveness, we used the support scale of a Dutch translation of the parenting style index (Lamborn, Mounts, Steinberg, & Dornbush, 1991; Steinberg, Lamborn, Darling, Mounts, & Dornbush, 1994; translated into Dutch by Beyers & Goossens, 1999). The support scale consists of 11 items assessing the extent to which adolescents perceive their parents as supportive, stimulating, and encouraging (e.g., "When I receive a bad grade at school, my parents encourage me to do better"). Response categories ranged from 1 (*not true at all*) to 5 (*completely true*). The scale was administered at T1 only and showed good internal consistency (Cronbach's $\alpha = .79$).

Results

Descriptive Analyses: Gender Differences

Table 2.1 provides data on the means and standard deviations of the variables assessed in this study. To examine gender differences that are commonly found in research on adolescent-parent communication (e.g., Youniss & Smollar, 1985; for a review see Buhrmester & Prager, 1995), we performed t-tests on the variables that were assessed at T1 only, comparing female and male adolescents. Data for the variables assessed at both waves were analyzed using 2 (gender) \times 2 (wave) mixed design ANOVAs. Main effects for gender will be reported.

Adolescents reported keeping some secrets from their parents. The degree to which they reported keeping secrets from their parents did not

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vary across gender. Adolescents' reported communication with parents, trust in parents, and parental supportiveness also did not vary across gender. Overall, female adolescents reported lower levels of self-esteem, $F(1, 1165) = 45.90, p < .001$, than did their male counterparts (see Table 2.1). Female adolescents also reported more frequent depressive mood, $F(1, 1118) = 16.58, p < .001$, and higher levels of stress, $F(1, 1148) = 9.89, p = .002$, than did male adolescents. Female adolescents reported lower levels of aggression, $F(1, 991) = 57.40, p < .001$, and delinquency, $F(1, 941) = 112.01, p < .001$, than did male adolescents. No gender differences emerged for self-control.

Table 2.1

Means and Standard Deviations for Secrecy, its Consequences, and Potential Confounds

Variable		Female adolescents		Male adolescents		Total sample	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Secrecy from parents		2.09	0.73	2.08	0.74	2.08	0.74
Self-esteem	T1	3.08	0.52	3.23***	0.45	3.16	0.49
	T2	3.08	0.58	3.28***	0.47	3.18	0.54
Depressive mood	T1	2.36	0.68	2.24***	0.65	2.30	0.67
	T2	2.42	0.69	2.24***	0.69	2.32	0.69
Stress	T1	2.25	0.56	2.19**	0.53	2.22	0.55
	T2	2.33	0.58	2.21**	0.59	2.27	0.59
Aggressive behavior	T1	1.20	0.22	1.31***	0.29	1.26	0.26
	T2	1.23	0.26	1.33***	0.33	1.28	0.30
Delinquency	T1	1.07	0.19	1.27***	0.36	1.17	0.31
	T2	1.10	0.26	1.34***	0.56	1.22	0.46
Self-control	T1	3.54	0.63	3.54	0.65	3.54	0.64
	T2	3.48	0.67	3.53	0.65	3.51	0.66
Communication parents		4.34	0.90	4.36	0.87	4.35	0.88
Trust in parents		4.95	0.74	4.93	0.77	4.94	0.76
Parental supportiveness		4.05	0.55	4.03	0.55	4.04	0.55

Note. Asterisk indicates significant difference: * $p < .05$; ** $p < .01$; *** $p < .001$

Descriptive Analyses: Correlations

Table 2.2 presents the correlation matrices for the variables assessed in this study. As expected, secrecy from parents was associated with all the dependent variables at T1 and at T2. Consistent with the suggestion that secrecy from parents may be confounded with other characteristics of the adolescent-parent relationship, secrecy from parents was negatively associated with communication with parents, trust in parents, and perceived parental supportiveness. These parental variables were also associated with all dependent variables at T1 and at T2. Finally, all dependent variables at T1 were strongly associated with their corresponding T2 variables.

Table 2.2
Correlation Matrices of the Variables Assessed in this Study

Variable	1	2	3	4	5	6	7	8	9	10
1. Secrecy from parents	-				-.33	.31	.33	.30	.24	-.40
2. Communication parents	-.42	-			.25	-.15	-.26	-.20	-.14	.16
3. Trust in parents	-.44	.72	-		.25	-.17	-.26	-.19	-.16	.16
4. Parental supportiveness	-.37	.67	.63	-	.23	-.16	-.23	-.14	-.10**	.15
5. Self-esteem	-.37	.28	.29	.27	.61					
6. Depressive mood	.43	-.23	-.24	-.21	-.49	.56				
7. Stress	.43	-.34	-.35	-.30	-.59	.65	.53			
8. Aggressive behavior	.39	-.21	-.26	-.19	-.16	.24	.23	.41		
9. Delinquency	.31	-.16	-.19	-.16	-.08*	.13	.20	.42	.53	
10. Self-control	-.44	.25	.23	.20	.38	-.47	-.44	-.36	-.20	.45

Note. Values below the diagonal represent correlations at T1, those above the diagonal represent correlations between row-variable at T1 and column-variable at T2, and values on the diagonal represent correlations between the dependent variables at T1 and at T2. Unless otherwise noted, all correlations are significant at $p < .001$: * $p < .05$; ** $p < .01$.

Testing for Main Effects of Secrecy from Parents

Using the LISREL 8.52 statistical program (Jöreskog & Sörbom, 1996), we analyzed the model presented in Figure 2.1 for each of the dependent variables. We found significant concurrent associations between secrecy from parents and all dependent variables (see Table 2.3, path B). In line with our predictions, secrecy from parents was associated with less self-esteem, more depressive mood, and more stress. As predicted, it was also associated with increased aggressive behavior and delinquency. Opposite to expectations, secrecy from parents was associated with less self-control. In each of the analyses, the dependent variable at T1 was strongly related to the corresponding T2 variable (see Table 2.3, path C), indicating that adolescent problems and self-control were rather stable over time. Above and beyond this stability, secrecy from parents had a direct longitudinal influence on all dependent variables (see Table 2.3, path A). Its longitudinal associations with psychological and behavioral problems were all in the predicted direction, although the coefficients were modest ($\beta = .07$ to $.16$). Secrecy from parents showed a strong longitudinal association with self-control ($\beta = -.25$), although, contrary to our prediction, it was associated with lower levels of self-control. This finding suggests that the more adolescents conceal information from their parents, the less developed are their feelings of self-control. In addition, the analyses suggest that secrecy from parents may have an indirect longitudinal influence on all the dependent variables through its concurrent associations with the dependent variables.

Figure 2.2 presents the model that includes the confounding variables. Analysis of this model for each of the dependent variables yielded negative concurrent associations of trust in parents with stress ($\beta = -.14$, $p < .01$) and aggressive behavior ($\beta = -.10$, $p < .05$). However, trust in parents showed no longitudinal association with either stress or aggressive

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behavior. Communication with parents and perceived parental support were neither concurrently nor longitudinally associated with any of the dependent variables. As can be seen in Table 2.3, inclusion of the parental variables in the model did not alter the pattern of results concerning the associations of secrecy from parents. Secrecy showed concurrent associations with all the dependent variables. Though secrecy was no longer associated longitudinally with delinquency, its longitudinal associations with all other dependent variables remained.

Table 2.3

Path Coefficients for Model Without and With Confounding Variables

Variable	N	Model without confounds			Model with confounds		
		Path coefficient			Path coefficient		
		A	B	C	A	B	C
Self-esteem	877	-.12***	-.37***	.58***	-.10**	-.27***	.56***
Depressive mood	943	.09**	.42***	.53***	.08*	.38***	.53***
Stress	964	.13***	.43***	.47***	.10**	.33***	.46***
Aggressive behavior	905	.16***	.38***	.36***	.14***	.34***	.36***
Delinquency	893	.07*	.32***	.52***	.05	.28***	.52***
Self-control	897	-.25***	-.44***	.34***	-.27***	-.40***	.35***

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

Testing for Moderator Effects

To examine the possible role of adolescent gender as a moderator of the associations between secrecy from parents and the dependent variables, we estimated the model separately for female and male adolescents with all of the parameters constrained to be equal. For the psychological problems, aggression, and self-control, the constrained model fitted the data reasonably well (all $\chi^2(5) < 9$). For delinquency, these constraints resulted in a chi-square of 19.57 ($p = .002$), indicating that equal solutions for female and male adolescents did not fit the data well. Investigation of the model for delinquency without constraints showed that secrecy has a stronger concurrent association with delinquency among male adolescents (.18) than among female adolescents (.07). Parameter estimates for the associations of secrecy from parents and delinquency at T1 with delinquency at T2 were equal for male and female adolescents (.05 and .70, respectively). Thus, gender moderates the concurrent association between secrecy from parents and delinquency, with secrecy influencing delinquency more strongly among boys than among girls.

Discussion

The present results can be summarized as follows. Keeping secrets from parents was associated with psychological disadvantages in adolescence, contributing to low self-esteem, depressive mood, and stress both cross-sectionally and longitudinally. Further, secrecy from parents was associated with behavioral problems, as it contributed to aggression and delinquency both cross-sectionally and longitudinally. Also, secrecy from parents showed

strong concurrent and longitudinal associations with self-control. Contrary to our prediction, however, it was associated with lower levels of self-control. Thus, adolescents who reported keeping many secrets from their parents also reported more psychosocial problems, more behavioral problems, and less self-control. These results held even when controlling for the influence of possible confounds, including communication with parents, trust in parents, and parental supportiveness (though secrecy no longer contributed to delinquency longitudinally). Moreover, though trust in parents showed concurrent associations with stress and aggressive behavior, only secrecy contributed to stress and aggressive behavior longitudinally. Taken together, these results suggest that secrecy is at least as dangerous an undertaking in adolescence as it is in adulthood (e.g., Larson & Chastain, 1990) and is thus quite deserving of its unsavory reputation.

Although we found differences between boys and girls in psychosocial well-being and problem behavior, there was little evidence of gender differences in the associations of secrecy from parents with well-being and problem behavior. Though gender moderated the concurrent association between secrecy and delinquency, no such moderation was found longitudinally. Gender did not moderate the associations between secrecy from parents and any of the other dependent variables. Thus, secrecy from parents does not seem to play a role in bringing about the differences between boys and girls in the types of problems they experience upon entering adolescence.

The Dark Side of Secrecy

Consistent with existing findings (Finkenauer et al., 2002), secrecy from parents was associated with substantial psychological disadvantages for adolescents. Besides psychological disadvantages, we found behavioral disadvantages of secrecy from parents. How can these disadvantages of secrecy be explained? We want to propose three theoretical alternative answers to this question. One possible answer is that keeping secrets is hard work. It requires constant active monitoring and inhibition or suppression of one's thoughts, feelings, and behavior to avoid revelation of secret information. All this hard work may wear and tear body and mind, causing physiological arousal and psychological stress. This may ultimately lead to the physical and psychological disadvantages of secrecy (e.g., Pennebaker, 1989; Lane & Wegner, 1995).

Another explanation may be that by keeping secrets from their parents, adolescents may deprive their parents of the knowledge they need to respond adequately to their offspring's needs. For example, self-presentational concerns may motivate adolescents to keep their shortcomings and insecurities secret from their parents. Parents' attempts

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to support their offspring may then become less effective. Thus, by keeping secrets from their parents, adolescents essentially deprive themselves of an important source of social support and affirmation, which may decrease their psychosocial well-being and may contribute to behavioral problems. This explanation holds even though we controlled for perceived parental supportiveness in the analyses of our data. Parental supportiveness reflects the extent to which parents are willing, but not necessarily always able, to provide support for their children. If children conceal important information from their parents, parental support will be less effective, no matter how willing parents are to provide support.

A third explanation may be that keeping secrets from parents undermines feelings of belongingness. This explanation is based on two assumptions. First, we assume that the need to belong constitutes a fundamental human motivation (Baumeister & Leary, 1995). Second, by nature, secrets separate the secret-keeper from those who do not know about the secret. Thus, at least on a psychological level, the secret-keeper should experience some degree of separation from secret-targets. Because the relationship with one's parents is an important and lasting interpersonal relationship involving frequent interaction, we propose that the experience of separation from parents that may accompany secrecy from them is a potentially powerful threat to belongingness. According to Baumeister and Leary (1995), deprivation of belongingness should cause a variety of ill effects, including physical, emotional, psychological, and even behavioral ramifications. For example, Twenge, Catanese, and Baumeister (2002) provided experimental evidence that a threat to belongingness causes a variety of self-defeating behaviors. Future studies should examine whether secrecy from parents constitutes a severe enough threat to belongingness to account for its observed disadvantages.

A Brighter Side of Secrecy?

We found no evidence that secrecy from parents contributes to adolescent development by enhancing feelings of self-control. On the contrary, secrecy from parents was a strong predictor of lower levels of self-control. This finding suggests that secrecy from parents impedes self-regulation. How can this finding be explained? We will propose two alternative explanations. The first explanation derives from the strength model of self-control. This model proposes that self-control consumes a limited resource (Baumeister, Muraven, & Tice, 2000; Muraven & Baumeister, 2000). In this view, exerting self-control in one domain consumes self-control strength, which reduces the amount of strength available for self-control efforts in other domains. Because the capacity to exert self-control encompasses the ability to keep secrets (Tangney, Baumeister, & Luzio Boone, 2004), it could be argued that high levels of secrecy from parents cause depletion of the limited resource

available for self-control, thus impairing adolescents' capacity to self-control in other domains. In this way, keeping secrets from parents impairs adolescents' development towards mastering self-regulation.

A second explanation focuses on a distinction between functional and dysfunctional secrecy. In the introduction, we claimed that learning to keep secrets is part of normal development and suggested that secrecy may serve as a strategy to cope with our social environments. Thus, keeping secrets involves control over both the self and the social environment. In this regard, functional secrecy from parents involves the ability to regulate the self (i.e., to keep secrets) strategically in response to relational goals and demands within the family context. We propose that a high level of secrecy from parents constitutes dysfunctional secrecy because it lacks the flexibility to respond adequately to situational demands. Rather than selectively concealing information, some adolescents keep almost everything secret from their parents. Such high levels of secrecy from parents may indicate that adolescents habitually opt for secrecy, which may prevent them from developing the ability to alter and regulate their behavior in accordance with situational demands. In other words, keeping many secrets from parents may lead to poor self-control (i.e. poor self-regulation skills). Our measurement of secrecy in adolescent-parent relationships does not allow us to differentiate between functional and dysfunctional secrecy. Future studies should examine how and when adolescents use secrecy strategically, and should examine individual differences in the ability to employ secrecy strategically. Such studies could help us distinguish between functional and dysfunctional secrecy.

A final question that arises is how the negative association between secrecy from parents and self-control fits with the previous finding that secrecy from parents contributes to emotional autonomy in adolescence (Finkenauer et al., 2002). At first sight, these findings seem incompatible. However, in the study by Finkenauer and colleagues (2002), emotional autonomy was associated with psychosocial disadvantages. This finding supports the suggestion that the concept of emotional autonomy has a negative connotation and reflects detachment from parents, rather than independence from parents (Ryan & Lynch, 1989; Frank, Pirsch, & Wright, 1990; Fuhrman & Holmbeck, 1995; for a review on the "detachment debate", see Silverberg & Gondoli, 1996). This interpretation is consistent with our suggestion that secrecy from parents should be accompanied by the experience of separation from parents. The experience of separation from parents would thus be reflected in the increased detachment from parents that is associated with keeping secrets from them. Although we did not measure detachment from parents in the present study, the univariate correlations from T1 between secrecy and all parental measures provide some preliminary support for this suggestion.

Chapter 2

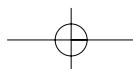
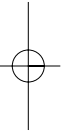
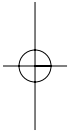
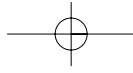
Limitations and Suggestions for Future Research

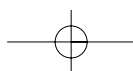
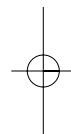
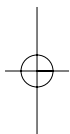
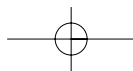
Our investigation of the associations of secrecy in adolescence focused specifically on secrecy from parents. Of course, parents are not the only candidates for secrecy, nor are they the only candidates for sharing secrets with. Friends, siblings, teachers, and other significant others provide opportunity for concealing or confiding secrets. It is conceivable that the impact of keeping secrets depends on from whom they are kept and with whom they are shared (cf. Kelly & McKillop, 1996). For example, keeping secrets all to oneself may be more harmful to adolescents than keeping secrets from their parents but sharing them with their best friend(s). Furthermore, our measure of secrecy from parents does not allow for distinction between secrets kept from mothers versus fathers. It is possible that it matters whether secrets are kept from both parents or specifically from one parent, especially when they are shared with the other parent. Finally, our investigation focused on the amount of secrecy from parents, regardless of secret-content. Although the available evidence suggests that secrecy has a negative impact on the secret-keeper that is independent of the content of the secret (e.g., Larson & Chastain, 1990; Lane & Wegner, 1995), the specific content of a secret should also play a role in determining the consequences of secrecy. Future research needs to examine different (types of) targets, confidants, and contents of secrets to investigate their roles and possible interplay in bringing about the disadvantages and possible advantages of secrecy in adolescence.

Although our study examined the longitudinal associations of secrecy in adolescence, a number of shortcomings call for caution when drawing conclusions on the causal direction of the observed associations. First, secrecy from parents was assessed at the first wave only. Second, our longitudinal study consisted of only two waves of data collection. Thus, even though our study examined the plausibility of the proposed causal relationships between secrecy and adolescent well-being and development, it cannot effectively rule out the alternative account that low self-control or psychosocial and behavioral problems lead to increased secrecy from parents.

Concluding Remarks

The present findings suggest that secrecy is a unique and powerful social phenomenon that affects the lives of adolescents in many ways. The secrets that adolescents keep from their parents may have ramifications for their sense of worth, their emotions, their actions, and their sense of control over themselves and their lives. As such, secrecy from parents constitutes an important risk factor in adolescent well-being, problem behavior, and self-control. Therefore, the concept of secrecy is an important addition to research on adolescence, and further investigation of the extent of secrecy's disadvantages in adolescence and the underlying mechanisms is called for.





Chapter 3

Keeping Secrets from Parents: The Perception of Child Concealment and Its Links with Parenting Behavior³

Concealment in relationships is a common phenomenon that occurs when one relationship partner intentionally withholds information from the other (Finkenauer & Hazam, 2000; Lane & Wegner, 1995). Almost everybody can remember an instant where he or she intentionally concealed information from a relationship partner, including family members (Vangelisti, 1994), friends (DePaulo & Kashy, 1998), parents (Guerrero & Afifi, 1995), romantic partners (Baxter & Wilmot, 1985), and spouses (Finkenauer & Hazam, 2000). Research on concealment in relationships has focused mainly on the concealer, studying his or her reasons for concealment (e.g., Baxter & Wilmot, 1985), the underlying motivations to avoid and conceal information from partners (e.g., Afifi & Guerrero, 2000), the physical and psychosocial correlates of concealing information (e.g., Finkenauer, Engels, & Meeus, 2002), and the link between concealment and relational satisfaction (e.g., Caughlin et al., 2000). In contrast, much less attention has been directed towards studying the implications of concealment for the target of the concealment. This neglect is unfortunate because investigation of the significance of concealment for the target of concealment may provide a fuller understanding of its relational implications.

The empirical evidence suggests a consistent association between individuals' concealment in relationships and relational dissatisfaction (Caughlin et al., 2000; Golish, 2000; Vangelisti, 1994). Moreover, perceptions of one's partner's concealment are also related to dissatisfaction with the relationship (e.g., Caughlin & Golish, 2002; Finkenauer & Hazam, 2000). In fact, Caughlin and Golish (2002) found that individuals' perceptions of their partner's topic avoidance were more strongly related to dissatisfaction than were their own reports of topic avoidance. These findings underline the importance of studying concealment from the target's perspective. They show that being in the secret-target position coincides with relational dissatisfaction and seem to suggest that concealment is viewed negatively by targets and may elicit feelings of rejection. The purpose of the present research is to further investigate these implications of concealment for its targets. Specifically, it is aimed at examining the implications of (perceptions of) concealment for targets' behavior toward the concealer.

Focusing on concealment in adolescent-parent relationships, we formulated two main research questions. First, we asked whether parental perceptions of their child's concealment predict poorer parenting behavior. Second, assuming that we would find such a negative association between parental perceptions of child concealment and parenting, we asked whether

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actual child concealment would add in any way to the prediction of parenting behavior.

Concealment from Parents in Adolescence

The questions raised bear particular importance in the realm of parent-child relationships in the developmental context of adolescence. This context is characterized by adolescents' struggle to free themselves from parental supervision and to become independent, autonomous agents in their own world (e.g., Blos, 1967; Ryan & Lynch, 1989; Steinberg, 1990). Adolescents' struggle for independence from parents is reflected in their conflicts with parents (Arnett, 1999; Laursen, 1995; Steinberg, 1990). Independence-related concerns (e.g., privacy, clothing, dating, going out) are at the top of the list of issues that provoke conflict between adolescents and parents (Laursen, 1995). Several authors have suggested that concealment is an important component in the development and maintenance of autonomy and independence (e.g., Margolis, 1966; Simmel, 1950; van Manen & Levering, 1996). For example, adolescents may use concealment to liberate themselves from parental supervision and to regulate their parents' access to what they consider their personal domain (e.g., Bok, 1989; Petronio, 1994; cf. Petronio, 1991; Petronio, Ellemers, Giles, & Gallois, 1998). Research among adolescents suggests that they may commonly use concealment and topic avoidance with their parents to evade punishment, criticism, and embarrassment (Guerrero & Afifi, 1995), and that concealment from parents may help them to attain independence and autonomy (Finkenauer et al., 2002).

In short, adolescence is a period in which adolescents have to become independent from their parents. To establish their independence and protect their growing need for privacy from unwanted parental invasion, adolescents may use concealment from parents, to "draw the line." How may parents react when they believe that their adolescent children conceal information from them? How may their perception of their child's concealment be related to their behavior towards their child? We will turn to this issue next.

Parental Perception of Child Concealment and its Link with Parenting Behavior

Concealment in relationships is a double-edged phenomenon. As a metaphor, the glass can be viewed as half full or half empty depending on which perspective one takes. Concealers usually have very good reasons, and mostly good intentions, when avoiding or concealing certain information from a relationship partner (e.g., Afifi & Guerrero, 2000). They commonly feel entitled to conceal the information from their partner and view their concealment as justified and important for the maintenance of

the relationship (e.g., Finkenauer & Hazam, 2000; Vangelisti & Caughlin, 1997). Targets of concealment, on the contrary, appear to feel resentment when people they know well persist (or are believed to persist) on withholding certain information from them (e.g., Bochner & Krueger, 1979; Finkenauer, 1998). Being in the target position is associated with relational dissatisfaction (e.g., Caughlin & Golish, 2002; Finkenauer & Hazam, 2000). To illustrate, Finkenauer and Hazam (2002) showed that perceived secrecy by the partner (even without knowing what the secrecy is about) was strongly negatively related to marital satisfaction.

This difference in perception of concealment between partners resembles variations found in the victim-perpetrator literature. Relative to victims, perpetrators tend to diminish the impact of their transgressions (e.g., lying, interpersonal conflict, cheating) and view them as less negative, more innocuous, and more rationally motivated than victims (e.g., Baumeister, Stillwell, & Wotman, 1990; Gordon & Miller, 2000; Kowalski, Walker, Wilkinson, Queen, & Sharpe, 2003; Mikula, Athenstaed, Heschgl, & Heimgartner, 1998). Thus, it appears that concealment is similar to several other (aversive) interpersonal behaviors in that it is viewed more negatively by targets than by actors (Caughlin & Golish, 2002; Finkenauer & Hazam, 2000; Kowalski et al., 2003; McCornack & Levine, 1990). These negative perceptions may not only be reflected in targets' evaluations of their relationship with the actor but may also translate into their behavior towards the actor. For example, McCornack and Levine (1990) found that 1 out of 4 relationships ended when a lie by one partner was discovered by the other. Although most terminations were due to the issue being lied about, one third of the terminations were due to the act of lying itself. Given these findings, it seems plausible that perceptions of concealment may be linked to negative behavior towards the concealer. This led us to hypothesize that parental perceptions of child concealment should predict poorer parenting behavior.

We have suggested that parents' perception of child concealment will be negatively related to parenting. Does it matter whether children actually conceal information? That is, does actual concealment add to the prediction of parenting, or does only parental perception of child concealment coincide with poorer parenting, regardless of actual concealment?

Does Actual Child Concealment Matter?

The literature does not provide many clues as to whether actual concealment matters because of a lack of studies that investigate concealment from the perspectives of both relationship partners. In one study that obtained reports from both parents and their children, Caughlin and Golish (2002) found support for a model in which the association between children's reports of their topic avoidance and parents' relational

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satisfaction was completely mediated by parents' perceptions of their child's avoidance. This finding seems to suggest that, once parental perceptions are taken into account, actual child concealment should not matter. However, it is possible that actual child concealment and parental perceptions of concealment interact in predicting parenting behavior. That is, the degree to which parental perceptions of child concealment match or mismatch actual child concealment may be related to parenting behavior. What if, for example, there were no parental perceptions to mediate the association between actual child concealment and parenting? It seems plausible that actual child concealment that parents do not perceive may nevertheless be associated with parenting. For example, if parents are unaware that their child conceals personal information from them, their understanding of their child should be lessened. This could subsequently reduce parents' ability to respond adequately to their child's needs. In other words, when parents are unsuspecting, actual child concealment may be linked to parenting. In this case, actual child concealment would matter, but only when parental perceptions of child concealment are low. That is, parental perceptions of child concealment would moderate the link between actual child concealment and parenting. Alternatively, we might expect that parental perceptions of child concealment would be more strongly related to parenting the closer they match actual child concealment. In other words, when parents perceive high levels of concealment, actual child concealment may amplify the association of perceived concealment with parenting. In this case, parental perceptions of child concealment would matter more with increasing agreement (i.e., with increasing actual concealment). That is, actual child concealment would moderate the link between parental perceptions of child concealment and parenting. Some support for this suggestion comes from a study by Gable, Reis, and Downey (2003). These authors found that individuals' perceptions of their partner's behavior affected their relationship well-being, for both positive (e.g., displaying affection) and negative behaviors (e.g., being inattentive). However, these effects were stronger when individuals' perception matched their partner's report of the behavior, suggesting that partners' agreement that a certain behavior took place amplifies its effects.

In short, there are two gaps in our understanding of concealment in social relationships. The first involves the issue of whether targets' perception of concealment predicts their behavior toward the concealer. The second involves the issue of whether actual concealment adds to the prediction of targets' behavior, either directly or through an interaction with targets' perception of concealment. We have advanced two possible ways in which the interplay between actual and perceived concealment might add to the prediction of targets' behavior toward the concealer. Beginning to fill these gaps is important to understanding the role of concealment and its

consequences in relationships. Patterns of adverse interaction in relationships depend on behavior from both partners, and this behavior depends on each partner's perception and interpretation of the other's behavior (e.g., Reis, Collins, & Berscheid, 2000; Sillars, 1998). Finding the predicted adverse associations of parental perception of concealment would be fundamental to our understanding of adverse adolescent-parent interactions. The importance of such a finding is suggested by research showing that children's everyday experiences in relationships with their parents are fundamental to their developing social skills (Russell, Pettit, & Mize, 1998). In particular, parental responsiveness and acceptance are considered to be key factors in the development of children's social competence (Maccoby & Martin, 1983). As such, a negative association between parental perception of child concealment and parenting would have important implications not only for our understanding of conflict in parent-child relationships but also for children's social development.

The Present Research

The present studies are among the first to investigate concealment in relationships from the perspective of the target of concealment. They contribute to the existing literature by extending the scope of research on the implications of concealment for its targets, which has hitherto been limited to relational satisfaction, to include targets' behavior toward the concealer. Further, they involve both relationship partners to tackle the question whether actual concealment matters. To investigate concealment in relationships, we chose to focus on adolescents' concealment in their relationships with their parents. We conducted two large-scale studies among adolescents and their parents. We hypothesized that parents' perceptions of child concealment will predict poorer parenting behavior toward their child. Further, we examined whether actual child concealment adds to the prediction of parenting behavior.

Study 3.1

The present study among adolescents and their mothers and fathers tested our central hypothesis. Specifically, we predicted that parental perceptions of child concealment should be negatively related to different indicators of parent-reported parenting, including parental knowledge, responsiveness, and acceptance. Additionally, the study examined whether adolescent-reported concealment adds to the prediction of these parenting behaviors.

Method

Procedure and Sample Characteristics

The data for analyses were derived from a cross-sectional study among Dutch families. All participants came from two-parent families with at least

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one adolescent child living at home. The Dutch research institute Veldkamp carried out the data collection in the summer of 2000. The sample was drawn from an existing national representative panel of 16,000 households. Each member of this panel had a personal computer at home. Families in the total sample were chosen to obtain variation on adolescents' age, gender, and educational level. Initially, 150 families were recruited. A total of 116 (77%) families responded by returning the self-report questionnaire of at least one family member by electronic mail. Each participant received a personal code and was paid upon returning the questionnaire (7 dollars). As an additional incentive to stimulate participation, each family received an extra payment (7 dollars) when all family members returned the questionnaires.

A total of 105 families provided data for an adolescent child and at least one parent, and these families are considered in the present study. Of these families, 86 provided data from both parents, 13 provided data only from the mother, and 6 provided data only from the father. The adolescents were between 10 and 18 years old, with an average age of 14.6 years ($SD = 2.94$). Fifty-one percent of the adolescents were male and 49% female. Concerning adolescents' educational level, 26% followed primary education, 44% followed secondary education, and 27% followed higher education.

Measures

Concealment. To assess *Adolescent concealment from parents*, we adapted Larson and Chastain's Self-Concealment Scale (SCS, Larson & Chastain, 1990). The original SCS scale consists of 10 items assessing (a) the tendency to keep things to oneself, (b) the possession of a secret or negative thoughts not shared with others, and (c) the apprehension of the revelation of concealed personal information. To assess concealment from parents, we adapted the original items by adding parents as the target of adolescents' concealment. The items "There are lots of things about me that I keep to myself," "I'm often afraid I'll reveal something I don't want to," and "I have a secret that is so private I would lie if anybody asked me about it," for example, became "There are lots of things about me that I conceal from *my parents*," "I'm often afraid I'll reveal something to *my parents* I don't want to," and "I have a secret that is so private I would lie if *my parents* asked me about it," respectively. Adolescents rated all items on 5-point scales (1 = *not at all*; 5 = *extremely*). In our study, the scale had high internal consistency ($\alpha = .85$). For similar results on the validity and reliability of the scale see Finkenauer et al. (2002). Adolescents' ratings were averaged to establish a *concealment from parents* score; higher values indicated greater actual child concealment.

To assess *Mother's and Father's perception of adolescent concealment*, the above-described scale was adapted by asking each parent to rate to what extent they thought their adolescent child concealed information from them. Thus, the scale for parents differed from that for adolescents only in the way the items were phrased. To illustrate, the item "I have an important secret that I haven't shared with my parents" from adolescents' concealment questionnaires became "My child has an important secret that (s)he hasn't shared with me." Each parent rated the 10 items on 5-point scales (1 = *not at all*; 5 = *extremely*). In our study, the scale had adequate internal consistency ($\alpha = .77$ for mothers and $\alpha = .72$ for fathers). Ratings were averaged to establish a perceived concealment score; higher values indicated greater *perceived concealment* by parents.

Parenting. To assess parenting, we used different indicators whose combination has been shown to reflect a warm, accepting, supportive, and consistent way of parenting which is associated with good psychosocial adjustment among adolescents (e.g., Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Kerr & Stattin, 2000; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994).

To assess *responsiveness*, we used the responsiveness subscale of the Nijmegen Rearing Questionnaire (Gerris et al., 1993; Gerrits, Dekovic, Groenendaal & Noom, 1996). The scale comprises of 8 items, such as "I help my child with her/his problems and worries." Each parent rated the items on a 6-point scale, ranging from 1 = *not at all* to 6 = *very much* ($\alpha = .89$ for mothers and $\alpha = .90$ for fathers). Ratings were averaged to establish a responsiveness score, higher values indicated greater responsiveness.

We assessed *parental knowledge* by a 6-item scale developed by Brown, Mounts, Lamborn, and Steinberg (1993). Parents rated themselves on their knowledge about their child's whereabouts (e.g., what their child does during her/his free time), activities (e.g., how their child spends her/his money), and contacts (e.g., whom their child's friends are). Items were rated on a 4-point scale (1 = *I know nothing about this issue*; 4 = *I know everything about this issue*) and were averaged to yield a parental knowledge score with higher values indicating greater knowledge. The α s of the scale in our study were .81 for mothers' and .79 for fathers' self-reports, which is comparable to the findings ($\alpha = .80$) of Brown et al. (1993).

To examine *parental acceptance*, a subscale of the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) was used. The scale consists of 12 items, and parents rated themselves on the scale. Example items are "I accept my child the way (s)he is" and "I respect my child's feelings." Response categories ranged from 1 = *never* to 4 = *almost always*. Empirical research on the psychometric properties showed high

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internal consistencies (e.g., Armsden & Greenberg, 1987; Nada Raja, McGee, & Stanton, 1992). Furthermore, a high 3-week test-retest reliability has been reported and the scale appears to possess convergent validity (Armsden & Greenberg, 1987). In our study, α s were .76 (mothers) and .76 (fathers). Ratings were averaged to establish a parental acceptance score; higher values indicated greater acceptance.

Results and Discussion

Descriptive Analyses

Before examining the questions that are the heart of this paper, we conducted a series of analyses to investigate gender differences. Both parenting and concealment are issues where gender differences have commonly been reported (e.g., Buhrmester & Prager, 1995; Paulson & Sputa, 1996; Paulson 1994). Adolescents in our sample generally reported concealing some information from their parents, and boys ($M = 2.22$; $SD = 0.74$) and girls ($M = 2.23$; $SD = 0.70$) did not differ in this respect, $F(1, 95) < 1$.

Mixed analyses of variance with parent gender as a within-subjects factor and adolescent gender as between-subjects factor were conducted to examine differences for all variables assessed from parents. We want to point out that, because these analyses necessitated all family members' ratings, the degrees of freedom are slightly lower than those reported in the analyses concerning specific adolescent-parent pairs (i.e., adolescent - father, adolescent - mother). The general pattern of findings did not vary across two or three family member analyses.

Table 3.1 provides findings on the means and standard deviations for the variables in this study by parent and adolescent gender. Parents reported that they perceived some concealment from their child, and fathers perceived more concealment than mothers, $F(1, 84) = 5.92$, $p = .017$, $\varepsilon^2 = .066$. Parents generally reported very high levels of responsiveness (mean score of 4.9 on a 6-point scale). Mothers reported more responsiveness, $F(1, 84) = 24.80$, $p = .000$, $\varepsilon^2 = .228$, and more knowledge than fathers, $F(1, 84) = 38.52$, $p = .000$, $\varepsilon^2 = .314$. Taken together these findings indicate that parents perceive themselves as emotionally involved with their child and aware of her/his whereabouts and activities. Parents reported high levels of acceptance. Mothers perceived themselves as being more accepting of their child, $F(1, 84) = 21.44$, $p = .000$, $\varepsilon^2 = .203$. Additionally, parents reported greater acceptance of their daughters than their sons, $F(1, 84) = 5.71$, $p = .019$, $\varepsilon^2 = .064$.

Main Analyses

Table 3.2 presents the correlation matrix for the variables assessed in this study. To test our hypothesis that parents' perception of child concealment

predicts poorer parenting and to examine whether actual child concealment adds to the prediction of parenting, we conducted multiple hierarchical regression analyses on the parenting variables. In the first step, we entered adolescent sex and age, to control for possible confounding influences of these variables, and parents' perception of adolescent concealment as predictors of parenting. In the second step, we added adolescent-reported concealment from parents and its interaction with perceived concealment to the regression equation.

As can be seen in Table 3.3, adolescent age was negatively linked with maternal knowledge and responsiveness. Also, mothers reported more responsiveness and acceptance with daughters than sons. As predicted, mothers' perception of concealment was strongly negatively linked with all indicators of parenting. Thus, when mothers perceived their adolescent child to conceal information from them, they reported being less knowledgeable about their child's activities and whereabouts ($\beta = -.46$), less responsive to their child's needs ($\beta = -.49$), and less accepting of their child ($\beta = -.58$). Taken together, these results provide support for our suggestion that parental perception of child concealment has adverse implications for their behavior toward their child.

Whether adolescent children actually concealed information from their parents or not did not seem to matter. None of the final regression equations yielded significant main or interaction effects for adolescent-reported concealment (see Table 3.3 for more details).

As can be seen in Table 3.3, findings for fathers' perception of concealment paralleled those found for mothers. Adolescent age was negatively linked with paternal knowledge, responsiveness, and acceptance. Also, fathers reported more responsiveness with daughters than with sons. When fathers perceived concealment from their adolescent children, they reported being less knowledgeable about their child's activities and whereabouts ($\beta = -.44$), less responsive to their child's needs ($\beta = -.50$), and less accepting of their child ($\beta = -.41$). Again, these results provide support for our suggestion that parental perception of child concealment has adverse implications for their behavior toward their child.

Replicating the pattern of results found for mothers, adolescents' actual concealment did not emerge as a significant predictor of fathers' parenting behavior, although a trend emerged for paternal responsiveness ($\beta = -.16$, $p = .078$). This trend suggests that fathers tend to be less responsive when their children actually conceal information from them. No interaction effects were obtained.

The findings reveal a consistent pattern. Both mothers' and fathers' perception of their child's concealment was negatively linked to their parenting. Specifically, the more parents perceived their child to conceal information from them, the less they reported being responsive to their

Table 3.1

Means and Standard Deviations of the Parent-reported Variables by Parent and Adolescent Gender (Total Number of Families = 105)

	Mothers (N = 99)						Fathers (N = 92)					
	Total sample		Girls		Boys		Total sample		Girls		Boys	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Perceived Concealment	2.02	0.53	2.03	0.54	2.00	0.53	2.14	0.48	2.09	0.49	2.19	0.46
Responsiveness	5.14	0.64	5.25	0.68	5.02	0.58	4.77	0.70	4.89	0.70	4.64	0.69
Knowledge	3.39	0.42	3.43	0.42	3.34	0.42	3.11	0.43	3.08	0.45	3.13	0.41
Acceptance	3.32	0.38	3.43	0.36	3.22	0.38	3.14	0.37	3.19	0.39	3.08	0.35

Table 3.2

Pearson Correlations Between Adolescent and Parent Reports (Total Number of Families = 105)

	1	2	3	4	5	6	7	8	9
1. Adolescent concealment from parents									
2. Perceived concealment mother	.20*								
3. Perceived concealment father	.28**	.55**							
4. Responsiveness mother	-.20*	-.50**	-.38**						
5. Responsiveness father	-.34**	-.30**	-.48**	.44**					
6. Knowledge mother	-.23*	-.47**	-.43**	.55**	.38**				
7. Knowledge father	-.25*	-.37**	-.47**	.39**	.47**	.56**			
8. Acceptance mother	-.15	-.56**	-.47**	.63**	.39**	.49**	.42**		
9. Acceptance father	-.25*	-.33**	-.45**	.34**	.67**	.33**	.33**	.49**	
10. Adolescent age	.15	.08	.04	-.22*	-.24*	-.36**	-.31**	-.01	-.21*

Note. * $p < .05$; ** $p < .01$

Table 3.3*Hierarchical Multivariate Regression Analyses Predicting Mothers' and Fathers' Parenting Behavior*

	Mothers (N = 99)						Fathers (N = 92)					
	Knowledge		Responsiveness		Acceptance		Knowledge		Responsiveness		Acceptance	
	β	R ²	β	R ²	β	R ²	β	R ²	β	R ²	β	R ²
Step 1		.36**		.31**		.37**		.29**		.33**		.24**
Adolescent Gender	.12		.19*		.24**		-.08		.10*		.12	
Adolescent Age	-.35**		-.21*		-.00		-.28**		-.24**		-.21*	
Perception of Concealment	-.46**		-.49**		-.58**		-.44**		-.50**		-.41**	
Step 2		.37**		.32**		.38**		.31**		.37†		.25**
Adolescent Gender	.11		.18*		.23**		.10		.08		.10	
Adolescent Age	-.33**		-.20*		-.00		-.27**		-.21*		-.19*	
Perception of Concealment	-.45**		-.47**		-.57**		-.40**		-.44**		-.37**	
Adolescent Reported Concealment	-.09		-.09		-.05		-.08		-.16†		-.10	
Perceived X Reported Concealment	-.07		-.07		.08		.12		-.11		.06	

Note. Adolescent gender is coded such that greater values indicate female; † $p < .10$; * $p < .05$; ** $p < .01$.

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child's needs, the less they knew about their child's whereabouts and activities, and the less accepting they were of their child. The results did not reveal evidence that children's actual concealment adds to the prediction of parenting behavior. Thus, parents' perceptions of their child's concealment coincide with poorer parenting, regardless of the child's actual concealment.

Although this pattern of results is consistent with our hypothesis, a number of shortcomings and considerations call for additional investigation. First, recent studies by Kerr and Stattin (2000; Stattin & Kerr, 2000) revealed that, contrary to the widespread assumption that children react to their parents, parents' knowledge about their children is largely dependent on their children's disclosure to them. If this were true, one could argue that the observed effects regarding concealment are mere by-products of parents' perceived disclosure from their children. In this sense, parents' perception of concealment may reflect parents' perception of (the lack of) disclosure. To disentangle concealment and disclosure, we should control for parents' perceived disclosure from their child when examining the associations between parents' perception of concealment and their parenting behavior.

Second, concealment requires people to engage in active strategies that protect the to-be-concealed information from being uncovered, such as falsification, lying, omissions, half-truths, distortions, or distraction (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996; Peterson, 1996). All of these strategies may provide targets with clues that point to the existence of concealment. If it is the perception that one's child is actively *concealing* information that matters, rather than a perceived lack of disclosure as suggested above, we should be able to replicate our results not only for concealment, but also for other indicators of concealment, such as lying. We examined this question in Study 3.2 by including a measure of parents' perception of their child's lying as an independent variable.

Third, our measures of parenting did not assess parents' probing behavior. Parental knowledge, responsiveness, and acceptance are widely recognized as good indicators of parental behavior (e.g., Brown et al., 1993; Lamborn et al., 1991; Kerr & Stattin, 2000; Steinberg et al., 1994). However, they do not tap active efforts to elicit information from children (for a discussion see Kerr & Stattin, 2000). It is possible that upon perceiving concealment, parents try to counteract concealment by actively soliciting information from their children. To examine this question, Study 3.2 included a measure assessing parents' active efforts to solicit information from their children as a dependent variable.

Study 3.2

Study 3.2 was designed to circumvent the shortcomings of Study 3.1 and provide a more complete picture of the implications of parental perception

of child concealment for their behavior toward their child. It complements Study 3.1 by assessing parents' perception of lying and disclosure and their active solicitation of information from their children. Further, it involved a large sample of young adolescents and their parents, using a traditional questionnaire approach. Contrary to Study 3.1, Study 3.2 did not involve both parents of each participating adolescent. Rather, one parent, either mother or father, filled in the questionnaire.

Method

Procedure and Sample Characteristics

The data for this study were derived from a large project designed to investigate the development of psychosocial problems among young adolescents. All students were in the first grade of secondary education in the Netherlands. Students completed the questionnaires at school in the presence of a teacher. Before administration of the questionnaires, parents were informed about the aims of the study and could return a form stating that they did not want their child to participate (although some parents called the institute for additional information, none of the parents returned this form). No explicit refusals were recorded; non-response was exclusively due to the adolescent's absence at the day of assessment. Parents received the questionnaires by mail and returned the completed questionnaires by means of a stamped envelope. We explicitly stated that only one parent should fill out the form. In 77% of the cases ($N = 427$), the mother filled out the questionnaire and in 23% the father ($N = 134$). Attention was drawn to the confidentiality of responses (see Botvin & Botvin, 1992). The letters of introduction and the questionnaires emphasized privacy aspects, and clearly stated that no information about the specific responses of participants would be passed on to others.

In order to motivate respondents to participate, adolescents and parents were included in a lottery in which CD certificates could be won. In addition, parents could indicate whether they wanted to receive a summary of the outcomes of our project.

In total, we obtained questionnaires from 561 adolescent-parent pairs. The adolescents were between 10 and 14 years old, with an average age of 12.3 years ($SD = 0.51$). The sample of adolescents consisted of 284 boys (51%) and 277 girls. The large majority of adolescents (96.6%) were of Dutch origin. Ninety percent of the adolescents lived with both parents, 6% lived with their mother, and 3% lived in other living arrangements (e.g., other family members, institutions, adoptive parent). Mothers' mean age was 41.31 years, $SD = 4.04$, fathers' mean age was 44.18 years, $SD = 4.64$.

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Parent-reported Measures

To assess *parents' perception of adolescent concealment*, we used the same scale as in Study 3.1. Parents rated the 10 items on 5-point scales (1 = *not at all*; 5 = *extremely*) ($\alpha = .77$ for mothers and $\alpha = .88$ for fathers).

To assess *parents' perception of adolescents' lying* toward them, we developed a new instrument because, to our knowledge, no scales for adolescents are currently available (Engels, Van Kooten, & Finkenauer, 2003). The scale showed acceptable reliability ($\alpha = .90$) and validity (for details see Engels et al., 2003). It consists of 12 items assessing the frequency with which parents perceive their child (a) to explicitly lie about activities and actions to them (e.g., "How often does your child lie to you about what she does with her friends?"), (b) to tell white lies (e.g., "How often does your child not tell the truth because she does not want to hurt somebody else's feelings?"), and (c) to make stories more interesting or lively by adding incorrect information (e.g., "How often does your child exaggerate the things she experiences?"). DePaulo et al. (1996) identified these three aspects as the most relevant ones concerning the assessment of lying in everyday life. Response categories ranged from 1 = *never* to 5 = *very often* ($\alpha = .89$ for mothers and $\alpha = .87$ for fathers). Ratings were averaged to establish a perceived lying score; higher values indicated greater perceived lying.

To assess *perceived disclosure toward parents*, we adapted the Self-Disclosure Index (Miller, Berg, & Archer, 1983). The original scale consists of 10 items assessing general self-disclosure in same-sex relationships and the necessary adjustments were twofold. First, parents rated the frequency with which they thought their child disclosed to them. Second, the topics of disclosure were adapted to fit parent-child relationships. To illustrate, sex may be a commonly discussed topic among married partners, but it certainly is not high on the priority list in conversations between parents and children (see Dolgin & Berndt, 1997). Parents rated the frequency with which they perceived their child to disclose information to them on 5-point scales (1 = *never*, 5 = *almost always*). Example items are "My child talks to me about his/her friends," "My child tells me about his/her fears," and "My child shares his/her feelings with me." A pilot study confirmed that all identified topics were relevant topics of disclosure in parent-child relationships (Finkenauer et al., 2002). In the present study, items showed satisfactory internal consistency ($\alpha = .90$ for mothers and $\alpha = .91$ for fathers). Parents' ratings were averaged to establish a perceived disclosure score; higher values indicated greater perceived disclosure.

Parenting. Similar to Study 3.1, we used different indicators whose combination has been shown to reflect a warm, accepting, supportive, and consistent way of parenting which is associated with good psychosocial

adjustment among adolescents (e.g., Lamborn et al., 1991; Kerr & Stattin, 2000; Steinberg et al., 1994).

To assess *parental involvement*, we used the involvement subscale of the parenting style index of Steinberg and colleagues (Lamborn, et al., 1991; Steinberg et al., 1994). Research on the psychometric properties of this scale provides evidence for its internal consistency, external validity, and test-retest reliability (Lamborn et al., 1991; Gray & Steinberg, 1999). In the present study, we used a Dutch translation of the index (Beyers & Goossens, 1999). The *involvement scale* comprises of 11 items assessing the extent to which parents perceive themselves as supportive, stimulating, and encouraging. Example items are "I encourage my child to do better when he or she experiences set-backs at school" and "I express my admiration for my child's achievements at school." Responses on the items ranged from 1 = *not true at all* to 5 = *absolutely true*. The internal consistency was $\alpha = .70$ for mothers and $\alpha = .75$ for fathers. Ratings were averaged to establish an involvement score, higher values indicated greater involvement.

As in Study 3.1 parental knowledge was assessed by the 6-item scale developed by Brown et al. (1993) ($\alpha = .83$ for mothers and $\alpha = .80$ for fathers) and parental acceptance was assessed by the attachment subscale of the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) ($\alpha = .77$ for mothers and $\alpha = .83$ for fathers).

To assess *parental solicitation*, we used a scale consisting of five items developed by Kerr and Stattin (2000). The scale measures the extent to which parents actively solicit information about and are interested in their child's activities. Example items are "How often do you talk to your child's friends when they come to your home" and "How often do you usually ask your child to talk about things that happened during his or her free time." Parents rated the items on 5-point scales, ranging from 1 = *never* to 5 = *always*. The scale showed adequate internal consistency for all participants ($\alpha = .80$ for mothers and $.81$ for fathers) which is comparable to what Kerr and Stattin (2000) found in their study ($\alpha = .69$). Additionally, these authors showed that the scale has a good test-retest reliability ($r = .84$).

Adolescent-reported Measures

As in Study 3.1, adolescents reported their *actual concealment from parents* on the adapted version of the Self-Concealment Scale (Larson & Chastain, 1990). Internal consistency was satisfactory ($\alpha = .85$).

Results and Discussion

Descriptive Analyses

As in Study 3.1, parents perceived some concealment from their child, and fathers perceived more concealment than mothers, $F(1, 557) = 6.87$, $p =$

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.009, $\varepsilon^2 = .012$ (see Table 3.4 for more details). Parents also perceived some lying, and mothers reported perceiving less lying in their children than fathers, $F(1, 556) = 11.86, p = .001, \varepsilon^2 = .021$. Additionally, both fathers and mothers reported perceiving more lying among their sons than their daughters, $F(1, 556) = 4.32, p = .038, \varepsilon^2 = .008$. Further, parents perceived their children to moderately disclose to them (mean score of 3.8 on a 5-point scale). Consistent with an abundant literature (for a review see Buhrmester & Prager, 1995), mothers reported greater perceived disclosure than fathers, $F(1, 556) = 9.44, p = .002, \varepsilon^2 = .017$.

Parents generally reported very high levels of parental involvement (mean score of 4.2 on a 5-point scale). Mothers reported more involvement, $F(1, 556) = 24.46, p = .000, \varepsilon^2 = .042$, and more knowledge than fathers, $F(1, 554) = 15.76, p = .000, \varepsilon^2 = .028$, again indicating that parents perceive themselves as emotionally involved with their children and aware of their whereabouts and activities. Both mothers and fathers reported actively soliciting information from their children. Mothers reported more solicitation than fathers, $F(1, 556) = 14.09, p = .000, \varepsilon^2 = .096$. This main effect was qualified by an interaction with child gender, $F(1, 556) = 5.77, p = .017, \varepsilon^2 = .010$. As can be seen in Table 3.4, mothers solicited as much information from their daughters as their sons, while fathers solicited more information from their sons than their daughters. Parents reported high levels of acceptance. Mothers perceived themselves as being more accepting of their child, $F(1, 557) = 31.21, p = .000, \varepsilon^2 = .053$. Contrary to Study 3.1, no effect for adolescent gender occurred.

Consistent with Study 3.1, adolescents reported concealing some information from their parents ($M = 2.05$ and $M = 2.11$, for boys and girls respectively). Boys and girls did not differ in this respect, $F(1, 559) < 1$.

Preliminary Analyses

Table 3.5 presents the correlation matrix for the variables assessed in this study.⁴ Perceived concealment was correlated with perceived disclosure, $r(560) = -.57, p < .001$, confirming the possibility that perceived disclosure may confound the perceived concealment-parenting link. Furthermore, in line with our suggestion that parents' perceptions of lying provide clues to suggest that their child conceals information from them, perceived lying and concealment were correlated, $r(560) = .57, p < .001$. Finally, all parental perceptions were correlated with the parenting behaviors.

Main Analyses

To examine whether parents' perceptions of child concealment are linked with poorer parenting behavior toward their child, we conducted hierarchical multiple regression analyses for both parents' perception of concealment and parents' perception of lying. To control for adolescent age,

adolescent gender, and parents' perception of adolescent disclosure, we entered these variables into the equation in the first step (see Tables 3.6 and 3.7). As in Study 3.1, adolescent-reported concealment from parents and its interaction with parental perceptions were added to the regression equation in the second step to examine whether actual child concealment adds to the prediction of the parenting behaviors.

As can be seen in Table 3.6, neither adolescent gender nor adolescent age emerged as strong first order predictors of parenting behavior. Again, as predicted, parents' perception of concealment was strongly negatively linked with all indicators of parenting, except parental solicitation. Thus, when parents perceived their adolescent child to conceal information from them, they reported being less knowledgeable about their child's activities and whereabouts ($\beta = -.23$), less involved with their child ($\beta = -.16$), and less accepting of their child ($\beta = -.25$). Importantly, these links were found when controlling for parents' perception of disclosure, which positively contributed to the prediction of all parenting behaviors. So, above and beyond their perception of how much their child reveals to them, their perception of concealment negatively contributed to their parenting behavior. This was not the case for solicitation, however. Rather, for solicitation, the only first order predictor that emerged was perceived disclosure ($\beta = .47$). That is, the more parents perceived their child to disclose information to them, the more they actively solicited information from their child.

The results for parents' perception of lying parallel those found for perception of concealment (see Table 3.7). Neither adolescent gender nor adolescent age emerged as strong first order predictors of parenting behavior, while perceived disclosure emerged as a first order predictor of all parenting behaviors, showing strong positive relations with them. Conversely, perceived lying emerged as a first order predictor but showed negative relations with parenting behavior, except with solicitation where it did not contribute to explaining any variance.

Again, these results provide support for our suggestion that parental perception of child concealment has adverse implications for their behavior toward their child. As we predicted, parents' perception of lying yielded results that closely match those found for concealment. Parents reported, above and beyond their perception of disclosure, that they were less knowledgeable of their child's activities, less involved, and less accepting of their child when they perceived that their child lied to them.

As in Study 3.1, whether adolescents actually concealed information from their parents or not did not seem to make a big difference (see Tables 3.6 and 3.7). Of the final regression equations, only the ones for parental knowledge yielded interaction effects between parental perceptions and actual child concealment. For perceptions of concealment, the regression

Table 3.4
Means and Standard Deviations of the Parent-reported Variables by Parent and Adolescent Gender

	Mothers (N = 427)						Fathers (N = 134)					
	Total sample		Girls		Boys		Total sample		Girls		Boys	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Perceived Concealment	1.82	0.43	1.82	0.43	1.83	0.42	1.93	0.48	1.89	0.52	1.99	0.43
Perceived Lying	1.94	0.51	1.87	0.52	2.00	0.49	2.03	0.46	1.35	0.45	2.14	0.45
Perceived Disclosure	3.86	0.59	3.93	0.60	3.80	0.58	3.68	0.58	3.70	0.62	3.67	0.54
Knowledge	3.39	0.38	3.45	0.38	3.34	0.36	3.25	0.33	3.24	0.35	3.27	0.31
Involvement	4.20	0.40	4.25	0.39	4.27	0.39	4.23	0.40	4.08	0.41	4.06	0.41
Solicitation	3.93	0.49	3.96	0.51	3.91	0.46	3.56	0.49	3.47	0.45	3.65	0.52
Acceptance	3.72	0.34	3.76	0.33	3.68	0.35	3.53	0.36	3.51	0.37	3.55	0.34

Table 3.5
Pearson Correlations between Adolescent and Parent Reports (N = 561)

	1	2	3	4	5	6	7	8
1. Perceived Concealment								
2. Perceived Lying	.57**							
3. Perceived Disclosure	-.57**	-.45**						
4. Knowledge	-.42**	-.42**	.43**					
5. Involvement	-.43**	-.33**	.52**	.47**				
6. Acceptance	-.54**	-.51**	.62**	.42**	.50**			
7. Solicitation	-.30**	-.23**	.47**	.39**	.52**	.44**		
8. Concealment Reported by Adolescents	.23**	.23**	-.15**	-.17**	-.13**	-.18**	-.05	
9. Adolescent Age	.02	.05	-.03	-.04	.01	-.02	-.01	.01

Note. * $p < .05$; ** $p < .01$

Table 3.6*Multivariate Regression Analyses Predicting Parents' Parenting Behavior (N = 551)*

	Knowledge		Involvement		Acceptance		Solicitation	
	β	R^2	β	R^2	β	R^2	β	R^2
Step 1		.23**		.29**		.43**		.22**
Adolescent Gender	.06		-.07†		-.03		-.05	
Adolescent Age	-.01		-.01		-.00		-.01	
Perception of Disclosure	.30**		.44**		.48**		.47**	
Perception of Concealment	-.23**		-.16**		-.25**		-.01	
Step 2		.24**		.29**		.43**		.22**
Adolescent Gender	.06		-.07†		-.03		-.05	
Adolescent Age	-.01		-.01		.00		-.01	
Perception of Disclosure	.29**		.44**		.48**		.47**	
Perception of Concealment	-.21**		-.15**		-.24**		-.02	
Adolescent Reported Concealment	-.07†		-.02		-.05		.02	
Perceived X Reported Concealment	.07†		.01		.01		.01	

Note. Adolescent gender is coded such that greater values indicate female; † $p < .10$; * $p < .05$; ** $p < .01$.

Table 3.7*Multivariate Regression Analyses Predicting Parents' Parenting Behavior (N = 550)*

	Knowledge		Involvement		Acceptance		Solicitation	
	β	R^2	β	R^2	β	R^2	β	R^2
Step 1		.25**		.29**		.45**		.22**
Adolescent Gender	.02		-.08*		-.07*		-.05	
Adolescent Age	-.01		-.01		-.01		-.00	
Perception of Disclosure	.31**		.48**		.50**		.47**	
Perception of Lying	-.24**		-.12**		-.29**		-.01	
Step 2		.26**		.29**		.46**		.22**
Adolescent Gender	.03		-.08		-.07*		-.05	
Adolescent Age	-.01		-.01		-.01		-.01	
Perception of Disclosure	.30**		.47**		.49**		.46**	
Perception of Lying	-.25**		-.11**		-.29**		-.02	
Adolescent Reported Concealment	-.06		-.03		-.04		.02	
Perceived Lying X Reported Concealment	.08*		.02		.05		.06	

Note. Adolescent gender is coded such that greater values indicate female; † $p < .10$; * $p < .05$; ** $p < .01$.

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yielded a marginally significant interaction ($\beta = .071$, $p = .062$). For perceptions of lying, this interaction effect was significant ($\beta = .076$, $p = .042$). To further investigate the nature of these interactions, we plotted each interaction by generating simple regression equations of parental knowledge on actual child concealment at low (i.e., one standard deviation below the mean) versus high (i.e., one standard deviation above the mean) levels of perceived concealment and perceived lying (cf. Aiken & West, 1991). As can be seen in Figures 3.1 and 3.2, the interactions seem to suggest that actual child concealment is associated with parental knowledge only at low levels of perceived concealment or perceived lying. To test this suggestion, we conducted simple slope analyses to assess whether the simple slopes of actual child concealment at each level of parental perception are significantly different from zero. The slope of actual child concealment was significant at the low level of parental perception of concealment, $t(548) = 2.58$, $p = .01$, whereas it was not significant at the high level of perceived concealment, $t(548) < 0.01$, $p > .99$. Likewise, the slope of actual child concealment was significant at the low level of parental perception of lying, $t(548) = 2.54$, $p = .01$, whereas it was not significant at the high level of perceived lying, $t(548) = 0.39$, $p = .70$. Thus, the interaction patterns show that actual child concealment is only related to less parental knowledge when parents are unsuspecting. In other words, concealment that parents do not perceive may nevertheless reduce their knowledge about their child.

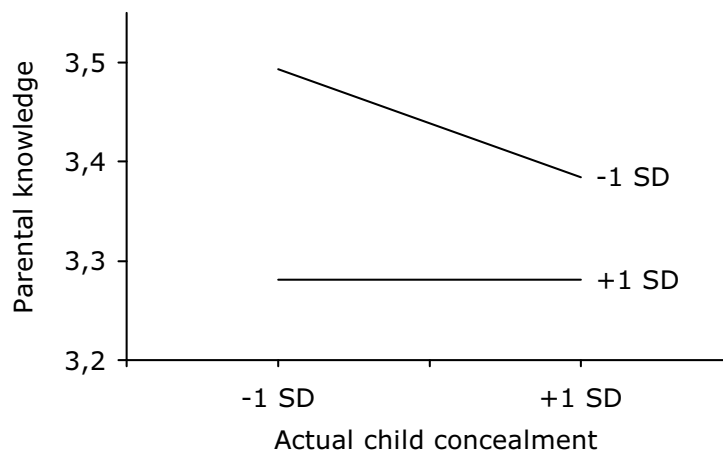


Figure 3.1. Interaction Between Actual Child Concealment and Parental Perception of Concealment in Predicting Parental Knowledge.

Note. Upper line depicts prediction of knowledge from actual child concealment at parental perception of concealment one standard deviation below the mean; Lower line depicts this prediction at one standard deviation above the mean

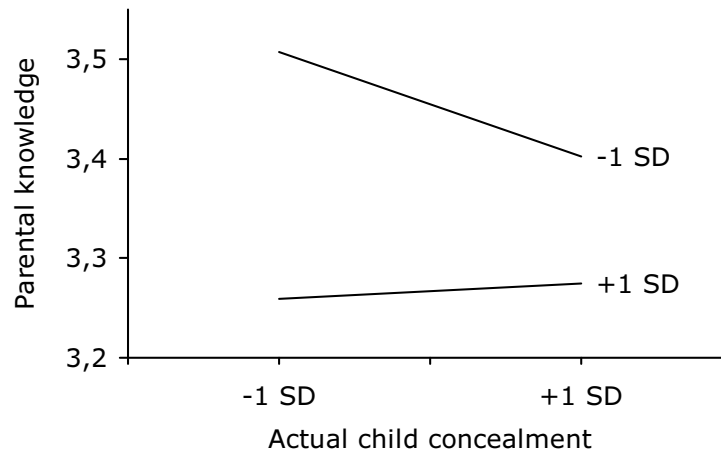


Figure 3.2. Interaction Between Actual Child Concealment and Parental Perception of Lying in Predicting Parental Knowledge.

Note. Upper line depicts prediction of knowledge from actual child concealment at parental perception of lying one standard deviation below the mean; Lower line depicts this prediction at one standard deviation above the mean.

General Discussion

Confirming our hypothesis, the results of both studies demonstrate that parents' perception of child concealment is associated with poorer parenting behavior toward their child. The results can be summarized as follows. High levels of parental perception of child concealment predicted poorer parenting on several indicators of parenting behavior for both fathers and mothers. Perceiving one's child as concealing information from oneself was associated with less responsiveness to one's child's needs, less acceptance of one's child, less involvement in the relationship with one's child, and lesser knowledge of one's child's activities and whereabouts. In contrast, we found no association between perceived concealment and parental efforts to actively solicit information from their child. Paralleling their perception of child concealment, parents' perception of their child's lying was negatively linked with their behavior toward their child. The observed links emerged above and beyond parents' perception of disclosure from their child, suggesting that the observed associations were not mere by-products of a perceived lack of disclosure.

Further, we found little support for the suggestion that actual child concealment may interact with parental perceptions in the prediction of parenting behaviors. Thus, actual child concealment did not seem to matter and high perception of concealment and lying was associated with poorer parenting, regardless of whether children actually concealed information from their parents or not. One exception to this general pattern occurred in the prediction of parental knowledge in Study 3.2. Here, actual child

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concealment was associated with less parental knowledge, but only when parental perceptions of child concealment or lying were low. Thus, parental perceptions of child concealment moderated the association between actual child concealment and parental knowledge.

Before discussing the results further, a general issue warrants consideration. Given that both our studies were cross-sectional in design, they do not allow for causal interpretations of the findings. We will offer several different explanations of our findings and discuss the implications of each possible explanation. Which explanation most accurately captures the actual causal relations between concealment and parenting is an issue that will have to be borne out in future research.

Parental Perception of Child Concealment and its Link with Parenting Behavior

The present research yielded consistent evidence of a negative association between parents' perceptions of their child's concealment from them and their parenting behavior toward their child. How may this finding be explained? One possibility would be, as we have suggested, that parents' perceptions of child concealment and lying lead to worse parenting behaviors. To the extent that parental perceptions do cause changes in parenting behavior, it would imply that parents resent their child's concealment and reflexively react by withdrawing their support and encouragement of their child. This possibility is consistent with the suggestion that perceived concealment conveys a relational message of social distance (cf. Bochner & Krueger, 1979) and an indication of a lack of trust or even betrayal (Kowalski et al., 2003). Thus, parents could be reacting to the perception of concealment in ways similar to partners' responses in adult relationships (Finkenauer & Hazam, 2000; Kowalski et al., 2003).

A second possibility would be that worse parenting practices lead to increased perceptions of child concealment. This would imply that parents who are not very responsive, supporting, and accepting of their child expect (and may often be right to expect) that their child will conceal information from them. Their preconceptions would then cause parents to perceive more concealment from their child. This possibility is consistent with research showing that expectancies affect interpersonal perception and interaction (e.g., Guland & Grolnick, 2003; Jussim & Eccles, 1995; Miller & Turnbull, 1986).

A third possibility would be that a third variable may cause changes in both parents' perception of child concealment and their parenting behavior. That is, some other parental characteristic may be influencing their perceptions and behaviors. The literature on personality and individual differences offers a number of prime candidates for this possibility. For

example, Rejection Sensitivity (RS) is the disposition to anxiously expect, readily perceive, and intensely react to rejection (Downey & Feldman, 1996). Downey and colleagues present empirical support for a model in which people high on RS, as compared to those who are not, are likely to (a) perceive intentional rejection in their partner's insensitive or ambiguous behaviors, (b) feel insecure and unsatisfied in their relationship, and (c) respond to perceived rejection by their partner with hostility, diminished support, or jealous, controlling behavior (e.g., Downey & Feldman, 1996; Downey, Feldman, & Ayduk, 2000; Downey, Freitas, Michaelis, & Khouri, 1998). Because concealment can be interpreted as a sign of rejection (e.g., you don't love me anymore, you don't trust me enough to tell me), parents who are high on RS may be especially likely to perceive concealment and to respond to this perception with poor parenting behavior.

Finally, the actual situation may be a combination of all three possibilities. That is, parents' perception of child concealment may set off a process that results in increased concealment, distrust, and suspicion between them and their child. In a first step, (perceived) child concealment may result in resentment and hurt by parents. The associated pattern of emotional withdrawal and decreased parental supportiveness may then cause the child to be even more secretive and match their parents' emotional withdrawal. These steps may continue in cyclic repetition, as each occurs in response to the other, resulting in poor relationship quality and increased potential for conflict. Certain personality characteristics of the parents, such as the afore mentioned rejection sensitivity, may add to this negative cycle by increasing both parents' perception of child concealment and their negative reactions toward their child.

Does Actual Concealment Matter?

Our results yielded little evidence of any interplay between actual and perceived child concealment in predicting parents' behavior toward their child. Only the analyses concerning parental knowledge yielded an interaction between actual concealment and parental perceptions, indicating that concealment that parents do not perceive may nevertheless reduce their knowledge about their child. No such interactions were found in the analyses of parenting behaviors. We found no evidence to suggest that actual child concealment amplifies the perception-parenting link. This suggests that the degree to which parental perceptions of child concealment match actual child concealment is not related to parenting behavior, that is, agreement does not seem to matter.

Although our findings yielded no evidence that actual child concealment amplifies the perception-parenting link, this does not necessarily mean that actual child concealment could not make a difference. It is possible that in the case of concealment, matches simply do not occur often enough to

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make a difference. Social interaction is often ambiguous. The same expression or behavior may be interpreted as helpful or hurtful, caring or indifferent, insulting or reassuring. As a consequence, there will always remain some amount of uncertainty in the interpretation of social cues. In the case of concealment, interference from two sources increases the potential for mismatches. The first source is the concealer, who will in most cases do everything he or she can to prevent targets from discovering the concealment. The second source is the target, whose dispositional and personal characteristics may bias their perception of concealment. For example, targets' own tendency to conceal information from others may lead them to project their own concealment onto others (e.g., Sillars, Pike, Jones, & Murphy, 1984; see also Van Boven & Loewenstein, 2003). Other characteristics, such as rejection sensitivity, may give rise to similar biases. Some support for the suggestion that matches between actual and perceived concealment may not occur all too often is provided by the moderate correlations we found between adolescent reported concealment and parental perception of concealment (between .20 and .28). These correlations are similar to the association between children's reports of topic avoidance and parents' perception thereof ($\beta = .28$) reported by Caughlin and Golish (2002).

Implications of the Findings

Across two large-scale studies, we found evidence for the hypothesis that parental perceptions of child concealment predict poorer parenting behavior. Further, we found no evidence that actual child concealment matters, suggesting that perceived concealment carries relational messages that go beyond what the concealment is about. Whichever causal pathway(s) gave rise to the present findings, these findings have important implications for understanding patterns of adverse interaction and conflict in interpersonal relationships. They are consistent with previous research on concealment and topic avoidance in relationships that shows a connection between individuals' perception of their partner's concealment and their own relational dissatisfaction (Caughlin & Golish, 2002; Finkenauer & Hazam, 2000). Our findings are also consistent with a large variety of studies that show that victims and perpetrators have different reactions to adverse interpersonal behavior (e.g., Baumeister et al., 1990; Gordon & Miller, 2000; Mikula et al., 1998). Specifically, the links between parents' perception of concealment and their parenting behavior seems to resemble the reactions of victims. As such, the present findings open the possibility that perceived concealment may be toxic for relationships (Imber-Black, 1993; cf. Kerr, Stattin, & Trost, 1999). More research is needed to investigate the mechanisms underlying the observed links

between parental perceptions of child concealment and their parenting behavior toward their child.

Limitations and Directions for Future Research

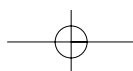
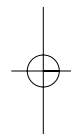
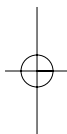
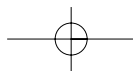
Although our research focused on parental perceptions of child concealment, we would suggest that our findings may be relevant to interpersonal relationships in general. However, parent-child relationships differ in important ways from other relationships like those between friends or dating partners. They are involuntary and asymmetrical, and parents possess more knowledge and social power than their children. Children turn to their parents for help, support, and guidance. Parents usually provide help, support, and guidance to their children, but do not (and perhaps should not), in return, require help, support, and guidance from their children. Caughlin and Golish (2002) found that parents' perception of their child's topic avoidance was associated with relationship dissatisfaction. Importantly, they found the same links in young romantic partner relationships, but not in children's relationships with their parents. Conversely, Finkenauer, Engels, Branje, and Meeus (2004) found that frequency of disclosure was linked with satisfaction in relationships in parental relationships, sibling relationships, and relationships where disclosure went from children to parents (i.e., parents were more satisfied when children disclosed to them). When disclosure went from parents to children, however, no such link was found. It seems then, that our findings on the associations of perceived concealment in parent-child-relationships may extend to other types of relationships between peers where partners interact on an egalitarian and reciprocal basis. The extent to which our findings generalize to more asymmetrical relationships may depend on the degree of asymmetry and on the position of the target. Future research should therefore examine the robustness of our findings across different types of relationships.

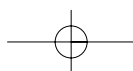
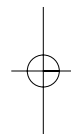
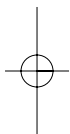
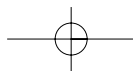
We have already mentioned that the cross-sectional nature of the present studies does not allow causal inference from our findings. We should point out a number of additional methodological considerations. The data in the present studies consisted of both adolescents' and parents' self-reports. We assume there is some resemblance between the adolescents' and parents' perceptions and their actual behavior, but undoubtedly there are some discrepancies, and the extent of these is unknown. Additionally, our "snapshot measurement" (Duck, 1994) of concealment and parenting behavior does not elucidate the dynamic, relational processes of how partners use and react to concealment in a relationship. Longitudinal and observational studies should monitor ongoing changes of concealment in relationships over time and examine to what extent parents' behavior varies as a function of these changes (cf. Dindia, 1994).

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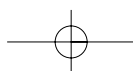
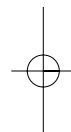
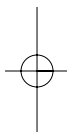
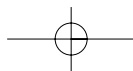
Concluding Remarks

One cannot fully understand concealment in relationships without considering the target of concealment. Our investigation of concealment in the relationship context between parents and their adolescent children illustrates that, while parents' perceptions of child concealment may be different from their child's actual concealment, they are strongly linked to their parenting behavior toward their child. Although the present research should be considered only a first step towards understanding the implications of concealment in relationships for targets' behavior toward the (presumed) concealer, its results underline the importance of studying this issue. To the extent that there is some truth to our suggestion that concealment conveys relational messages of separation and rejection, our findings imply that targets "get the message" and react with behavioral withdrawal. Further investigation of this issue may provide a fuller understanding of patterns of adverse interaction and conflict in close relationships.





PART II
When Secrets Are Shared:
Qualifying Secrecy's
Unsavory Reputation



Chapter 4

When Secrets Are Shared:

Individual versus Shared Secrets and their Links with Well-being⁵

Keeping secrets is generally considered to be stressful and burdensome for the secret-keeper, and research on secrecy confirms that it may have negative consequences (e.g., Finkenauer & Rimé, 1998a; Lane & Wegner, 1995; Pennebaker & Susman, 1988). Conversely, confessing secrets may alleviate the negative consequences of secrecy and help a person to assimilate and make sense of the experience (e.g., Kelly, Klusas, von Weiss, & Kenny, 2001; Pennebaker, 1989). Emerging from this evidence is the generally accepted conclusion that keeping secrets is harmful. In this paper, we challenge this conclusion and suggest that whether secrets are harmful depends on the type of secret people keep. In stark contrast to the assumption that secrets are kept secret from everyone, we propose that secrets are generally shared with at least one person. In such cases, a piece of information is shared and kept secret at the same time. We propose that such *shared secrets* should be less harmful for the secret-keeper than *individual secrets* (i.e., secrets that have not been shared with anybody), because sharing secrets should alleviate the detrimental effects of secrecy. Moreover, we propose that sharing secrets serves as a skill in relationship maintenance, and should thus be related to interpersonal competence. The purpose of the present research is to test these hypotheses. Specifically, it is aimed at examining differences between these two types of secrets and their links with well-being and adjustment.

Sharing as the Default

Though dealing with secrecy, it is important to realize that people generally talk about the things that occupy their hearts and minds. When given the opportunity, people readily disclose deeply personal aspects of their lives (Pennebaker, 1997a). Jourard (1971) argued that self-disclosure serves as a basic human motive. Consistent with this suggestion, Rimé and colleagues report sharing of emotional experiences in about 90% of cases across a series of retrospective studies (for a review, see Rimé, Philippot, Boca, & Mesquita, 1992). Recipients of such sharing were typically intimates, including close family members and best friends. Prospective diary studies confirmed that sharing is the default and occurs in an overwhelming percentage of cases (Rimé, Finkenauer, Luminet, Zech, & Philippot, 1998). Underlining the generality of the phenomenon, sharing was found among children and elderly, in different countries in both Western and Asian cultures, and for positive as well as negative events (Rimé et al., 1998). It seems then, that people have a need to disclose and naturally share significant experiences with their intimates. Thus, analogous to the default of a computer program, people will share their

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personal thoughts, feelings, and experiences with others unless explicitly opting otherwise. And that is where secrets come in to play. Most people have feelings, thoughts, and information that they avoid disclosing to others (Vangelisti, 1994). Ranging from ordinary to intensely disturbing, these secrets have been proposed to have a variety of detrimental effects.

Detriments of Secrecy

Keeping secrets is hard work. It requires constant active monitoring and inhibition or suppression of one's thoughts, feelings, and behavior to avoid revelation. This inhibition requires physiological work that, in and of itself, is stressful (Pennebaker, 1989). Continued active inhibition is suggested to serve as a cumulative stressor that increases the probability of psychosomatic disease and other stress-related physical and psychological problems (Pennebaker, 1989, 1997b). Inhibition and thought suppression may also prevent full processing of the secret information and cause thought intrusion, which subsequently leads to mental rumination and obsessive preoccupation with the secret (Pennebaker, 1989; Lane & Wegner, 1995) and may ultimately cause psychopathology (Wegner & Lane, 1995). Secrecy is suggested to prevent a person from organizing and assimilating the secret information and coming to terms with it (e.g., Pennebaker, 1989). Furthermore, because certain people, situations, and conversation topics will be avoided in the attempts to conceal secrets, secrecy may deprive a person of social support and validation and cause social isolation or feelings of loneliness (e.g., Brown & DeMaio, 1992; Grolnick, 1983; Imber-Black, 1993; Jung, 1961). In sum, secrecy has been proposed to have physical, psychological, and social disadvantages.

Research among adults provides evidence of the detrimental effects of secrecy (e.g., Finkenauer & Rimé, 1998b; Ichiyama et al., 1993; Kelly & Achter, 1995; Lane & Wegner, 1995; Larson & Chastain, 1990; Pennebaker & Susman, 1988). For example, Larson and Chastain (1990) found that the dispositional tendency to keep secrets, which they labeled "self-concealment," contributed to physical symptoms, anxiety, and depression, even after controlling for other explanatory variables such as self-disclosure and traumatic experiences. Research among adolescents has shown that keeping secrets from parents is associated with physical, psychosocial, and behavioral problems, and contributes to these problems in the long run (Finkenauer, Engels, & Meeus, 2002; Frijns, Finkenauer, Vermulst, & Engels, in press).

Benefits of Disclosure

Confiding personal experiences has been proposed to alleviate the negative consequences of secrecy described above and to help a person to assimilate and make sense of the experience. Talking or writing about upsetting or

traumatic experiences has been associated with improved physical health (Pennebaker & Beall, 1986; Pennebaker, Colder, & Sharp, 1990), immune function (Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994; Petrie, Booth, Pennebaker, Davison, & Thomas, 1995) and psychological well-being (Francis & Pennebaker, 1992; Greenberg, Wortman, & Stone, 1996; for a review see Smyth, 1998).

Mixed Findings

Although a growing body of evidence indicates that disclosure as opposed to secrecy may promote physical and psychological well-being, the impact of disclosure is not always positive. Some theorists have argued that disclosing potentially stigmatizing information may engender negative consequences (Lane & Wegner, 1995; Pennebaker, 1993), and concern about the social consequences of revelation is exactly why people often keep secrets (e.g., Bok, 1989; Larson & Chastain, 1990). The ability to conceal information from others may be an adaptive skill in managing our social interactions (e.g. Simmel 1950; Schlenker & Weigold, 1992). For example, Kelly (2000) found that withholding unfavorable information from a therapist is associated with positive outcomes.

Standoff or Trade-off?

It seems that when it comes to secrecy, people are faced with a dilemma of two mutually exclusive options. They may want to conceal unfavorable or stigmatizing information from others, but the literature suggests that doing so will cause detriments, and that it may be better to reap the benefits of confession. However, underlying the generally accepted conclusion that keeping secrets is harmful is the implicit assumption that all secrets are equal. They consist of information that one person conceals from everyone else. For example, the self-concealment scale (Larson & Chastain, 1990) consists of items such as "I have an important secret that I haven't shared with anyone" or "I have negative thoughts about myself that I never share with anyone." We contend that the conclusion that secrets are harmful might be limited to secrets that have never been shared with anyone. Other types of secrets exist, such as secrets that are shared within a family or with a friend (Karpel, 1980; Vangelisti, 1994; Watson & Valtin, 1993).

Lane and Wegner (1995) suggested that people keep secrets from others out of fear of the consequences of exposure, not realizing that the concealment itself can cause severe detriments. We would suggest that in most cases, secrecy is a tradeoff rather than solely detrimental. We propose that most people strive to balance the pros and cons of secrecy by strategically sharing their secrets, rather than rigidly concealing them from everyone. Given that people generally share the most intimate and

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emotional aspects of themselves with their intimates, we propose that they generally share their secrets as well.

When Secrets are Shared

Sharing secrets should alleviate at least some of the detrimental effects of secrecy and should produce some of the benefits of confession. Sharing a secret should reduce the negative effects of inhibition and suppression. Talking about a secret with a confidant may help a person to assimilate and make sense of the experience, as confidants may give helpful feedback or provide support (Kelly & McKillop, 1996).

Furthermore, because sharing secrets can be construed as a form of self-disclosure or social sharing, it could be assumed to benefit interpersonal relationships and social bonds (e.g., Christophe & Rimé, 1997; Collins & Miller, 1994; Pennebaker, Zech, & Rimé, 2001). Shared secrets may create and maintain intimacy and relatedness in interpersonal relationships (Simmel, 1950; Karpel, 1980; Richardson, 1988; van Manen & Levering, 1996; Vangelisti, 1994). Bellman (1984) suggested that it is not the secret content as such that is crucial in increasing intimacy and relatedness among the secret-keepers. Rather it is the "doing secrecy" (p. 147), having the secret together and exchanging the secret information, that creates a feeling of relatedness among secret-keepers. According to Bellman (1984), feelings of intimacy and relatedness caused by sharing secrets are far more intense than those that are created by any other type of disclosure. In this view, sharing secrets is an important skill in creating and maintaining intimacy and relatedness in relationships and should thus contribute to interpersonal competence.

In sum, shared secrets may combine the best of both worlds. They allow for concealment of information that could have negative consequences if revealed, while minimizing the detriments of the concealment itself. They allow for strategic sharing with intimates and may thus promote interpersonal competence.

Considering Secret Topic

Bellman (1984) suggests that it is the act of sharing secrets that matters, rather than their specific content, but secrets vary in content all the same. Different types of secrets could be identified by their theme (e.g., family, sex, illness), or by how "big" or "small" they are. Some secrets pertain to the ordinary (e.g., failing a test), while others may concern major stressful life events (e.g., rape). A secret may be perceived by the secret-keeper as more or less personal, important, or serious. Just like some types of information are more likely to be kept secret than others, it is possible that some secret topics are more likely to be shared than others. If so, any differences that are found between individual and shared secrets could

simply be due to differences in secret content. For example, if secrets concerning traumatic experiences such as rape are unlikely to be shared, higher levels of distress related to trauma will strengthen the association between keeping individual secrets and distress, thereby creating an artificial difference between individual and shared secrets. Therefore, it is important to investigate possible differences in secret content and perceptions thereof between individual and shared secrets.

The Present Research

The three studies reported here are the first to explicitly differentiate between individual and shared secrets and to investigate their links with well-being. They contribute to the existing literature by providing a potentially important dimension on which secrets vary. This dimension may change the way we look at secrets and shed new light on the complex social phenomenon of secrecy and its unsavory reputation.

On the basis of the literature and propositions discussed above, we formulated three main hypotheses. First, based on the idea of sharing as the default, we predicted that people would generally share their secrets with their intimates, and that shared secrets should therefore be more common than individual secrets. Second, we predicted that shared secrets would be less harmful for the secret-keeper than individual secrets. This prediction is based on the suggestion that the advantages of sharing a secret will reduce, and may perhaps even nullify or outweigh, the disadvantages of secrecy. Finally, we predicted that sharing secrets serves as an interpersonal skill, because it may benefit the regulation of interpersonal relationships.

To investigate the possibility of secret topic as a confounding variable, we examined whether differences in content exist between individual and shared secrets (Studies 4.1 & 4.2). To investigate the associations of individual and shared secrets with well-being, we conducted a study among 790 adolescents (Study 4.3). We predicted that the physical and psychosocial disadvantages of secrecy found among adults and adolescents (i.e., physical complaints, low self-esteem, depressive mood, and loneliness) would hold for keeping an individual secret. Keeping a shared secret, on the other hand, should not or only weakly be associated with any disadvantages. On the contrary, we predicted that keeping a shared secret should be associated with improved interpersonal competence, because sharing secrets may be a strategic device in the regulation of interpersonal relationships.

Study 4.1

The main purpose of this study was to verify the plausibility of the proposed distinction between individual and shared secrets. It examined whether

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shared secrets are more common than individual secrets and whether they differ in content.

Method

Participants

Fifty-two adolescents (mean age = 16.1 years, $SD = 1.01$), 37 (71%) girls and 15 boys, participated in a questionnaire study on secrecy. Almost all adolescents held the Dutch nationality ($N = 49$, 94%). The majority of adolescents ($N = 42$, 81%) lived with two parents, 9 (17%) lived with their mother, and one adolescent lived with her father.

Questionnaires

All participants were given a broad definition of secrets and were asked to think about a secret of their own. We based our description of secrets on the literature, where secrecy is defined as the intentional concealment of personal information from others (cf. Bok, 1989; Kelly, 2002). Thus, secrets consist of information that (at least) one person actively and consciously withholds from (at least) one other person. The specific instruction was as follows:

"A secret is something that one intentionally does not tell to others. Thus, there are people, who, for one reason or the other, should not know about this information. Sometimes secrets concern information that people keep all to themselves and nobody may know about it. In other cases, one has a secret that one shares with one particular person such as a friend but not with any other person. Again in other cases, one can have a secret that is shared by all members of one's family but that is kept from outsiders. Some secrets concern information that is not very important, others concern important and very personal information. As you can imagine, given this variety, most people have one or more secrets. Please think about something that you intentionally do not tell to others. If you have more than one secret, please select the most recent one."

Participants were asked to indicate whether or not their secret had been shared with others and, if it was shared, how many people it had been shared with (1 = *one person*, 2 = *two or three persons*, 3 = *four or five persons*, 4 = *six persons or more*) and with whom it had been shared (i.e., *best friend*, *a friend*, *mother*, *father*, *other family member*, *acquaintance*, *teacher*, and *other*). Participants were also asked about the content of their secret. Because secrets, by nature, consist of information that people cannot or do not want to reveal to others, questions concerning the content of secrets were presented in a closed question-format. Based on the existing literature on children's and adults' secrets (Last & Aharoni-Etzioni, 1995; Vangelisti, 1994), we identified 10 categories for the topic of

adolescents' secrets (see Table 4.1). Participants indicated whether or not their secret concerned any of these topics.

Results and Discussion

Descriptives

Overall, 36 (69%) participants reported having a secret, indicating that secrecy is a widespread phenomenon among adolescents. Shared secrets appeared to be more common among adolescents ($N = 24$, 67%) than individual secrets ($N = 12$, 33%), $\chi^2(1) = 4.00$, $p = .046$. Of all these secrets, 7 (19.4%) were shared with one person, 7 (19.4%) were shared with two or three persons, 3 (8.3%) were shared with four or five persons, and 7 (19.4%) were even shared with six persons or more.

Confidants of adolescent secret-keepers

It appears immediately that confidants of secrets are confined to the circle of intimates (note that because some adolescents reported having shared their secret with several confidants, the number of confidants exceeds 24). Best friends were the most frequently mentioned confidants ($N = 19$, 79.2%), followed by friends ($N = 12$, 50.0%). The following categories of confidants were family members, including mothers ($N = 8$, 33.3%), fathers ($N = 3$, 12.5%), and other family members ($N = 8$, 33.3%). Other people who were mentioned included cousins (three times), psychotherapist, and parents of best friend. Adolescents did not report having shared their secrets with teachers or acquaintances. Thus, adolescents seem to share their secrets only with their intimates, a pattern that is similar to those found in studies on social sharing (Rimé et al., 1992, 1998), which suggests that sharing secrets may indeed be a form of social sharing.

Content of adolescents' secrets

Table 4.1 summarizes the number and percentage of secrets that concerned each of the ten topics. Note that because participants could indicate that their secret concerned more than one topic, these percentages add up to more than 100%. Overall, most secrets by far concerned romantic or sexual relationships (52.8%). These secrets were followed by secrets concerning parents or the family (25.0%) and secrets concerning friends (25.0%). Then came secrets about the feeling that the adolescent can do nothing right (22.2%), followed by secrets concerning things that are forbidden (16.7%), and secrets about future plans (16.7%). Secrets regarding substance use, illness, or possessions were rarely mentioned. We performed Chi-square tests on the ten categories of secret topics to examine whether shared and individual secrets differed. No significant differences emerged (all $\chi^2(1) < 2.7$). Thus, even though secrets are more

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often shared than kept all to oneself, there was no evidence of any differences in the specific secret content between individual and shared secrets.

These results provide first support for our proposed distinction. Many adolescents indicated having shared their most important secret. Confirming our prediction, shared secrets were more prevalent than individual secrets. Finally, results indicate that it is unlikely that the topics of shared secrets are different from those of individual secrets.

Table 4.1
Topics of Secrets in Adolescence (N = 36)

Topic category	Individual secrets		Shared secrets		All secrets	
	N	(%)	N	(%)	N	(%)
Romantic / sexual relationships (e.g., kissing, having a crush)	6	(50.0)	13	(54.2)	19	(52.8)
Parents or family (e.g., divorce, problems with parents)	1	(8.3)	8	(33.3)	9	(25.0)
Friends (e.g., problems with/ secret told by friend)	3	(25.0)	6	(25.0)	9	(25.0)
Feeling that I cannot do anything right (e.g., being a failure)	4	(33.3)	4	(16.7)	8	(22.2)
Things that are forbidden (e.g., stealing, breaking something)	1	(8.3)	5	(20.8)	6	(16.7)
My future (e.g., studies)	2	(16.7)	4	(16.7)	6	(16.7)
Substance use (alcohol, drugs, cigarettes)	0		4	(16.7)	4	(11.1)
Illness (e.g., handicap, fatal illness)	1	(8.3)	1	(4.2)	2	(5.7)
Secret possession (e.g., knife)	0		1	(4.2)	1	(2.8)
Other	0		4	(16.7)	4	(11.1)

Study 4.2

Although Study 4.1 confirmed our predictions, it assessed the content of secrets in a closed question-format, thus imposing our categorization on participants. The identified categories may not have been exhaustive. To circumvent this limitation, Study 4.2 let participants describe their secrets in their own words. Furthermore, in Study 4.1, participants generated a secret, which was then qualified as either an individual or a shared secret. For better comparison, this study examined both types of secrets simultaneously.

Method

Participants

Participants were 158 students (mean age = 21 years, $SD = 1.87$), 95 (60.1%) females and 63 males. Almost all participants ($N = 152$, 96.2%)

held the Dutch nationality. Many participants ($N = 61$, 38.6%) lived by themselves, 34.2% lived with both parents, 6.3% lived with one parent, 9.5% lived with a friend, 7.6% lived with their partner, and 3.8% reported other living arrangements.

Questionnaires

As in Study 4.1, all participants were given a broad definition of secrets. They were then asked to indicate whether they currently kept an individual secret (*yes* or *no*), defined as "a secret that you have never talked about or shared with anyone." They were then asked to write down the content of their secret or to provide a description of the topic of their secret. Participants could indicate that they did not want to reveal the content or topic of their secret. Next, they were asked to indicate whether they currently kept a shared secret (*yes* or *no*), defined as "a secret that you have talked about or shared with at least one other person. There are, however, still other people that you do not want to know about it." Participants were again asked to write down the content of this secret or to provide a description of its topic. As with their individual secret, participants could indicate that they did not want to reveal the content or topic of their shared secret. Additionally, they were asked to indicate with how many people their secret had been shared ($1 = 1$ person; $4 = 4$ persons or more).

Results and Discussion

Descriptives

Most participants reported having at least one type of secret ($N = 133$, 84.2%). Shared secrets ($N = 122$, 77.2%) were more prevalent than individual secrets ($N = 50$, 31.6%), $\chi^2(1) = 30.80$, $p = .000$. Overall, 25 (15.8%) participants reported not having a secret, 11 (7.0%) participants reported having only an individual secret, 83 (52.5%) participants reported having only a shared secret, and 39 (24.7%) participants reported having both types of secret. Of all secrets, 27 (15.7%) were shared with one person, 29 (16.9%) were shared with two persons, 15 (8.7%) were shared with three persons, and 51 (29.7%) were even shared with four persons or more.

Content of secrets

The descriptions of secrets provided by the participants were categorized by two independent raters, who were blind to the type of secret (i.e., individual or shared), resulting in 13 categories of secret topics. Each secret was assigned to one category ($Kappa = .90$; all inter-rater reliabilities for the separate categories were $> .82$). The categories were labeled cheating (includes kissing and having sex with someone other than partner), negative sexual experiences (includes incest, rape, and any sexual

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experience explicitly defined as negative), sex (includes all other sexual experiences), family (includes family secrets), friends (includes keeping friend's secret and references to relationship with friend), psychological problems (includes depression, suicidal tendencies, and eating disorders), physical problems (includes physical illness and disease or suspicion thereof), transgressions (includes substance abuse and criminal offenses such as burglary), romantic relationships (includes references to former or current romantic relationship not explicitly involving sex), love (includes being in love or having a crush on someone), uncertainties (includes uncertainties about appearance and body-weight), failure (includes bad performance at school and failing tests), and other (includes any description that could not be classified into the above categories; i.e., "something that happened at summer camp"). Table 4.2 summarizes the number and percentage of secrets that concerned each of the 13 topics. Overall, sex (12.2%) was the most frequent topic of secrets, followed by cheating and family (10.5% each). Then came psychological problems (9.3%), negative sexual experiences (8.1%), transgressions (6.4%), and physical problems (5.8%). Love and romantic relationships were rare topics of secrets (5.2% each), while friends (3.5%), uncertainties (3.5%), and failure (2.3%) were hardly ever the topic of secrets. Finally, 12 (7%) descriptions of secret-content could not be classified into a category.

Chi-square tests assessed whether shared and individual secrets differed with respect to their topic. Echoing the results of Study 4.1, these tests revealed no significant differences in the percentage of individual or shared secrets that concerned any of the 13 topics (all $\chi^2(1) < 1.6$). It should be noted that 7 (4.1%) participants refused to reveal the topic of their individual secret, while 11 (6.4%) participants refused to reveal the topic of their shared secret. A Chi-square test revealed that the number of participants who refused to reveal the topic of their secret did not differ between individual and shared secrets.

These results parallel those of Study 4.1. Despite the fact that both types of secrets were assessed simultaneously, shared secrets were far more prevalent than individual secrets. Although secrets are intentionally concealed, the overwhelming majority of participants described their secret on our anonymous questionnaire. Only few refused. Neither the content nor the refusals differed between individual and shared secrets. These findings provide further support for our suggestion that people have a need to share and generally share their secrets, and indicate that sharing occurs independent of the specific content of a secret.

Study 4.3

Studies 4.1 and 4.2 confirmed our hypotheses. They did not, however, investigate the hypotheses that sharing secrets alleviates the potential

detriments of secrecy, and that sharing secrets serves as an interpersonal skill. This was the main purpose of Study 4.3. This study examined the associations of the two types of secrets with well-being and interpersonal competence, and compared the well-being of secret-keepers who kept an individual secret with that of secret-keepers who kept a shared secret.

Table 4.2

Topics of Secrets (N = 133, total number of secrets is 172)

Topic category	Individual secrets		Shared secrets		All secrets	
	#	(%)	#	(%)	#	(%)
Sex	6	(12.0)	15	(12.3)	21	(12.2)
Cheating	7	(14.0)	11	(9.0)	18	(10.5)
Family	3	(6.0)	15	(12.3)	18	(10.5)
Psychological problems	4	(8.0)	12	(9.8)	16	(9.3)
Negative sexual experiences	6	(12.0)	8	(6.6)	14	(8.1)
Transgressions	3	(6.0)	8	(6.6)	11	(6.4)
Physical problems	3	(6.0)	7	(5.7)	10	(5.8)
Love	1	(2.0)	8	(6.6)	9	(5.2)
Romantic relationships	3	(6.0)	6	(4.9)	9	(5.2)
Friends	1	(2.0)	5	(4.1)	6	(3.5)
Uncertainties	2	(4.0)	4	(3.3)	6	(3.5)
Failure	1	(2.0)	3	(2.5)	4	(2.3)
Other	3	(6.0)	9	(7.4)	12	(7.0)

Method

Procedure and Sample Characteristics

Data for analyses were derived from a large-scale survey among 14-19 year old adolescents in the Netherlands. A total of 5 schools in the regions of Amsterdam and Haarlem participated in the study, with a total of 36 classes. Before the questionnaires were administered, parents were informed about the aims of the study and could return a form stating that they did not want their child to participate (although some parents requested additional information, none of the parents returned this form).

The questionnaires were filled out in the classrooms in the presence of either the principle researcher or a teacher, who had received instructions on how to administer the questionnaire. Attention was drawn to the confidentiality of responses (see Botvin & Botvin, 1992). The letters of introduction and the questionnaires emphasized privacy aspects, and clearly stated that no information about the specific responses of participants would be passed on to teachers or parents. Also, the principle researcher and teachers ensured that confidentiality and anonymity were rigorously respected. Because of the intimate and potentially distressing nature of the questions concerning ones secrets, counseling was available to any participant who wished to talk to someone after filling out the questionnaire (one participant made use of this offer). No explicit refusals were recorded; non-response was exclusively due to the adolescent's absence at the day of assessment. A total of 790 adolescents participated.

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In total, 356 (45.3%) boys and 430 girls participated in this study. The mean age of the adolescents was 15.8 years ($SD = 0.97$). Most adolescents (94%) were born in the Netherlands. The majority of adolescents (80%) lived with two parents, 14.5% lived with their mother, 1.8% lived with their father, and 3.7% lived with other family members or in institutions.

Questionnaires

As in Studies 4.1 and 4.2, all participants were given a broad definition of secrets. They were then asked to indicate whether they currently kept an individual secret (*yes* or *no*), defined as "a secret that you have never talked about or shared with anyone." Participants indicated how long they had been keeping this secret (1 = *a week or shorter*; 5 = *more than a year*) and rated their agreement (1 = *not at all*; 5 = *very much*) with 7 statements concerning characteristics and perceptions of their secret that were derived from the literature (see Table 4.3). To verify the distinction between individual and shared secrets, participants rated how much others knew about their secret (i.e., others know a lot about this secret). To further ensure the comparability of the secret-content, they also rated the personal relevance, importance, seriousness, and intrusiveness of their secret. Finally, they indicated how difficult keeping this secret was to them and how freely they felt they could choose to keep or reveal this secret. Next, they were asked to indicate whether they currently kept a shared secret (*yes* or *no*), defined as "a secret that you have talked about or shared with at least one other person. There are, however, still other people that you do not want to know about it." Participants again indicated how long they had been keeping this secret and rated the 7 statements concerning their shared secret. Additionally, they were asked to indicate with how many people their secret had been shared (1 = *1 person*; 4 = *4 persons or more*) and with whom it had been shared (i.e., *best friend, a friend, mother, father, other family member, partner, acquaintance, teacher, and other*).

Confidants. To assess the availability of others to talk to or confide in, participants rated 5 items concerning the number of potential confidants in their social environment (e.g., "how many people do you know that you feel you can talk to about anything") on a scale ranging from 1 (*none*) to 5 (*4 or more*; Cronbach's $\alpha = .71$).

Physical complaints. To assess adolescents' physical complaints, we used Sikkels' (1980) physical wellness scale. Thirteen items assess the extent to which a person suffers from minor physical complaints (e.g., headaches, nausea, tiredness). Respondents rated whether or not they experienced each complaint on a regular basis (*yes* vs. *no*). Their answers were summed to establish a physical complaints score. Higher scores indicated more physical complaints.

Self-esteem. Rosenberg's (1965) self-esteem scale assessed adolescents' perceived self-value or sense of worth (e.g., "Sometimes I feel that I am completely useless," "In general I am happy with myself"). This scale is often taken as an indicator of psychosocial adjustment among adolescents (Kahle, Kulka, & Klingel, 1980). It consists of 10 items and responses were given on a scale ranging from 1 (*very descriptive of me*) to 4 (*not at all descriptive of me*). In our study, this scale had high internal consistency (Cronbach's $\alpha = .88$).

Depressive mood. Kandel and Davies' (1982) 6-item Kandel Depression Scale was used to assess depressive mood. Adolescents rated the frequency (0 = *never*; 4 = *always*) with which they experienced symptoms of depressive mood such as feeling nervous and tensed. Their responses were averaged to yield a depressive mood score; higher values indicated more frequent feelings of depression (Cronbach's $\alpha = .79$).

Loneliness. Loneliness was assessed using a shortened version of the revised UCLA Loneliness scale (Russel, et al., 1980), which was translated into Dutch using a translation-back-translation procedure. The scale consists of 10 statements concerning the extent to which people feel lonely (e.g., I feel left out). Adolescents rated the items on a scale ranging from 1 (*not at all true for me*) to 5 (*very true for me*). Responses were averaged to yield a loneliness score; higher values indicated greater feelings of loneliness (Cronbach's $\alpha = .86$).

Interpersonal competence. To assess interpersonal competence, a shortened version of the interpersonal competence questionnaire developed by Buhrmester, Furman, Wittenberg, and Reis (1988) was employed. This questionnaire assesses five domains of interpersonal competence. For each domain, participants rated 4 descriptions of common interpersonal situations for their level of competence and comfort in handling each situation (1 = *I'm poor at this*; 5 = *I'm extremely good at this*). The domains include initiation (e.g., "Introducing yourself to someone you might like to get to know or date"; Cronbach's $\alpha = .79$), negative assertion (e.g., "Confronting your close companion when he or she has broken a promise"; Cronbach's $\alpha = .76$), disclosure (e.g., "Knowing how to move a conversation with a date/acquaintance beyond superficial talk to really get to know each other"; Cronbach's $\alpha = .76$), emotional support (e.g., "Being a good and sensitive listener for a companion who is upset"; Cronbach's $\alpha = .81$), and conflict management (e.g., "Being able to admit that you might be wrong when a disagreement with a close companion begins to build into a serious fight"; Cronbach's $\alpha = .75$).

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Results

Descriptives

A large majority of participants reported having at least one type of secret ($N = 622$, 78.7%). As in Studies 4.1 and 4.2, shared secrets ($N = 550$, 69.6%) were more prevalent than individual secrets ($N = 268$, 33.9%), $\chi^2(1) = 97.22$, $p = .000$. Overall, 168 (21.3%) participants reported not having a secret, 72 (9.1%) participants reported having only an individual secret, 354 (44.8%) participants reported having only a shared secret, and 196 (24.8%) participants reported having both types of secret. Of all these secrets, 149 (18.2%) were shared with one confidant, 138 (16.9%) were shared with two people, 110 (13.4%) were shared with three people, and 148 (18.1%) were shared with four persons or more.

Confidants of Secret-keepers

As in Study 4.1, confidants of secrets were confined to the circle of intimates (note that because some adolescents reported having shared their secret with several confidants, the number of confidants exceeds 550). Best friends ($N = 369$, 67.1%) were the most frequently mentioned confidants, followed by friends ($N = 227$, 41.3%). The following categories of confidants were family members, with mothers ($N = 147$, 26.7%) being most frequently mentioned, followed by fathers ($N = 94$, 17.1%) and other family members ($N = 93$, 16.9%). Partners ($N = 73$, 13.3%) were also quite frequently mentioned. Acquaintances ($N = 20$, 3.6%), teachers ($N = 5$, 0.9%), and others ($N = 13$, 2.4%) were rarely mentioned. Other confidants who were mentioned included classmates, parents of (best) friend, neighbor, social worker, psychotherapist, and God. Thus, similar to the results obtained in Study 4.1 and consistent with findings on social sharing (Rimé et al., 1992, 1998), adolescents seem to share their secrets only with their intimates.

Descriptive Analyses: Secret Characteristics

To examine differences in characteristics between individual and shared secrets, we performed t-tests on the characteristics, comparing individual and shared secrets (see Table 4.3). Confirming the distinction between individual and shared secrets, others were more knowledgeable about shared secrets than about individual secrets, $t(777) = 9.40$, $p = .000$. On average, participants had been keeping individual secrets longer than shared secrets, $t(771) = 4.54$, $p = .000$. Individual secrets were rated as more personal, $t(776) = 5.04$, $p = .000$, more important, $t(778) = 3.60$, $p = .000$, and more serious, $t(778) = 4.31$, $p = .000$, than were shared secrets. No differences were found in intrusiveness, personal choice, or difficulty.

When Secrets are Shared

Table 4.3*Secret Characteristics (N = 622, total number of secrets is 818)*

Secret characteristic	Individual secrets	Shared secrets
	Mean	Mean
Duration (i.e., since when have you been keeping this secret)	4.11	3.68***
Others' knowledgeableness (i.e., others know a lot about this secret)	1.85	2.67***
Personal relevance (i.e., this secret is very personal)	3.90	3.43***
Importance (i.e., this secret is important)	3.10	2.75***
Seriousness (i.e., this secret is serious)	2.90	2.45***
Intrusiveness (i.e., I think about this secret very often)	3.08	3.20
Personal choice (i.e., I can choose freely to keep or reveal this secret)	3.75	3.89
Difficulty (i.e., keeping this secret is difficult for me)	2.10	2.25

Note. Asterisk indicates significant difference: * $p < .05$; ** $p < .01$, *** $p < .001$.

Table 4.4*Means and Standard Deviations of the Assessed Variables*

Variable	Female adolescents		Male adolescents		Total sample	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Confidants	3.32	0.87	3.45*	0.95	3.38	0.91
Physical complaints	4.43	3.11	2.66***	2.76	3.62	3.08
Self-esteem	3.13	0.61	3.35***	0.53	3.23	0.59
Depressive mood	2.66	0.74	2.23***	0.73	2.47	0.76
Loneliness	1.78	0.60	1.71	0.58	1.75	0.59
Initiation	3.24	0.81	3.27	0.85	3.25	0.83
Negative assertion	3.35	0.71	3.37	0.70	3.36	0.70
Disclosure	3.07	0.72	2.87***	0.70	2.98	0.72
Emotional support	3.97	0.64	3.63***	0.76	3.82	0.72
Conflict management	3.32	0.62	3.34	0.74	3.33	0.68

Note. Asterisk indicates significant difference: * $p < .05$; ** $p < .01$, *** $p < .001$.

Descriptive Analyses: Gender Differences

In adolescence, many gender differences are found in communication and disclosure (e.g., Youniss & Smollar, 1985; Buhrmester & Prager, 1995), as well as in psychosocial problems (e.g., Kandel & Davies, 1982; Campbell, Byrne, & Baron, 1992; Hankin & Abramson, 1999). Therefore, we examined gender differences in secrecy by performing Chi-square tests to compare the percentages of boys versus girls who reported keeping individual and shared secrets. Table 4.4 provides data on the means and standard deviations of the variables assessed in this study. To further examine commonly found gender differences, we performed t-tests on these variables, comparing female and male adolescents.

Individual secrets were more prevalent among girls ($N = 163$, 37.9%), $\chi^2(1) = 6.56$, $p = .010$, than among boys ($N = 104$, 29.2%). Shared secrets were also more prevalent among girls ($N = 354$, 82.3%), $\chi^2(1) = 72.74$, $p = .000$, than among boys ($N = 193$, 54.2%). It seems that these differences reflect a general tendency of girls to keep more secrets than boys, as the distribution of the two types of secrets did not differ between girls and boys, $\chi^2(1) = 1.04$, $p = .307$. Overall, female adolescents reported having slightly less confidants than male adolescents, $t(784) = 2.08$, $p = .038$. Female adolescents reported more physical complaints, $t(771) =$

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8.41, $p = .000$, lower levels of self-esteem, $t(776) = 5.26$, $p = .000$, and more frequent depressive mood, $t(776) = 8.13$, $p = .000$, than did male adolescents. Female adolescents reported being more socially competent in the domains of disclosure, $t(754) = 3.74$, $p = .000$, and emotional support, $t(653) = 6.55$, $p = .000$, than their male counterparts. No gender differences emerged for the other domains of interpersonal competence and loneliness.

Associations of the two Types of Secrets

To examine the associations of the two types of secrets with well-being, we performed regression analyses on the dependent variables, entering gender, individual secrecy, shared secrecy, and all interactions as predictors (see Tables 4.5 and 4.6). To examine the possibility that any differences between the two types of secrecy are due to a lack of confidants, we entered confidants into the equation in a second step of the analyses.

Reflecting the gender differences reported above, gender predicted physical complaints, self-esteem, depressive mood, and emotional support. As expected, having an individual secret predicted physical complaints, self-esteem, depressive mood, loneliness, and competence in disclosure. In line with our predictions, having an individual secret was associated with more physical complaints, lower self-esteem, more depressive mood, and more feelings of loneliness. It was also associated with less competence in disclosure. Having a shared secret, on the contrary, predicted greater interpersonal competence in the domains of initiation, disclosure, and emotional support.

Significant gender by individual secrecy interaction effects were found on physical complaints, self-esteem, and depressive mood. These interactions indicated that individual secrecy was more strongly associated with physical complaints ($\beta = .35$), self-esteem ($\beta = -.27$), and depressive mood ($\beta = .42$) among girls than among boys ($\beta = .11$, $\beta = -.11$, and $\beta = .17$, respectively). Thus, individual secrecy seems to amplify existing gender differences in physical and psychological problems among adolescents. A significant gender by shared secrecy interaction effect was found on competence in disclosure. This interaction indicated that shared secrecy was more strongly associated with competence in disclosure among girls ($\beta = .21$) than among boys ($\beta = .07$). Significant individual secrecy by shared secrecy interaction effects were found on depressive mood and competence in disclosure. These interactions indicated that the negative effect of keeping an individual secret was weakened for depressive mood and even nullified for disclosure when participants were keeping a shared secret ($\beta = .16$ and $\beta = -.01$) as compared to when they were not ($\beta = .39$ and $\beta = -.20$). A significant three-way interaction effect was found on competence in disclosure. This interaction indicated that the weakening effect of shared

secrecy on the effect of individual secrecy was stronger among girls than among boys.

When confidants was entered into the regression-equation in a second step, it emerged as a significant predictor of all the dependent variables. Having more people to confide in was associated with less physical complaints, more self-esteem, less depressive mood, less loneliness, and more interpersonal competence in all five domains. The addition of confidants slightly altered the pattern of results. Individual secrecy no longer predicted disclosure, while shared secrecy now predicted only disclosure. The individual by shared secrecy interaction and the three-way interaction on disclosure were no longer significant. Thus, of all associations between secrecy and interpersonal competence, only the predicted association between shared secrecy and interpersonal competence in disclosure remained (see Table 4.6). That is, participants who had a shared secret were more skilled in strategically confiding personal information to enhance their social interactions than those that did not have such a secret.

Comparison of the two Types of Secrets

To examine the possibility that differences between individual and shared secrets in their links with well-being are due to other secret characteristics, we entered all characteristics on which the two types of secrets differed into regression analyses on the dependent variables. These analyses can only be conducted on a sub-sample of participants, namely those participants who reported having only one type of secret ($N = 426$).⁶ These analyses assessed the respective importance of (1) gender, (2) type of secret (individual or shared), (3) the gender by type of secret interaction, and (4) other secret characteristics (i.e., the duration, personal relevance, importance, and seriousness of the secret) in predicting the dependent variables (see Table 4.7).

Gender predicted physical complaints, self-esteem, depressive mood, and loneliness. Above and beyond other secret characteristics, type of secret predicted physical complaints, self-esteem, depressive mood, loneliness, and competence in disclosure.⁷ Participants with an individual secret reported more physical complaints, less self-esteem, more depressive mood, and more loneliness than those with a shared secret. They also reported being less competent in disclosure than those with a shared secret. Significant gender by type of secret interaction effects were found on physical complaints, self-esteem, and disclosure. These interactions indicated that the differences between individual and shared secrets in physical complaints, self-esteem, and disclosure were greater among girls than among boys. Of the other secret characteristics, the seriousness of the secret emerged as a significant predictor of physical complaints and depressive mood, and came close to significance in predicting self-esteem ($\beta = -.12$, $p = .056$). No other characteristic predicted any of the dependent variables significantly.

Table 4.5
Summary of Hierarchical Regression Analyses for Physical and Psychosocial Well-being

Variable	Physical complaints			Self-esteem			Depressive mood			Loneliness		
	B	β	R ²	B	β	R ²	B	β	R ²	B	β	R ²
Step 1			.14***			.07***			.16***			.02*
Gender	.91	.29***		-.12	-.20***		.21	.28***		.04	.07	
Individual secrecy (IS)	.72	.22***		-.12	-.19***		.23	.28***		.09	.14**	
Shared secrecy (SS)	.11	.03		.00	.01		.00	.01		-.02	-.04	
Gender x IS	.39	.13**		-.05	-.09*		.09	.12**		.04	.07	
Gender x SS	.01	.00		.01	.02		.02	.03		.00	-.01	
IS x SS	-.19	-.06		.04	.07		-.10	-.14**		-.03	-.05	
Gender x IS x SS	-.02	-.01		.02	.04		.00	.00		-.03	-.05	
Step 2			.18***			.14***			.19***			.20***
Gender	.84	.27***		-.10	-.17***		.20	.26***		.01	.02	
Individual secrecy (IS)	.65	.20***		-.10	-.16***		.21	.26***		.06	.09*	
Shared secrecy (SS)	.17	.05		-.01	-.02		.01	.02		.00	.01	
Gender x IS	.36	.12**		-.05	-.08		.09	.11**		.03	.05	
Gender x SS	.02	.01		.01	.02		.03	.03		.00	.00	
IS x SS	-.14	-.05		.03	.05		-.09	-.12**		-.01	-.02	
Gender x IS x SS	.02	.01		.01	.02		.01	.01		-.01	-.03	
Confidants	-.62	-.18***		.18	.28***		-.14	-.17***		-.28	-.43***	

Note. Variable gender is coded such that a high value indicates female. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4.6*Summary of Hierarchical Regression Analyses for five Domains of Interpersonal Competence*

Variable	Initiation			Negative assertion			Disclosure			Emotional support			Conflict management		
	B	β	R ²	B	β	R ²	B	β	R ²	B	β	R ²	B	β	R ²
Step 1			.01			.01			.05***			.07***			.01
Gender	-.03	-.04		.02	.02		.04	.05		.16	.22***		-.01	-.01	
Individual secrecy (IS)	.03	.03		-.03	-.03		-.08	-.11*		.01	.02		-.03	-.04	
Shared secrecy (SS)	.08	.09*		-.02	-.03		.12	.16***		.06	.08*		.05	.07	
Gender x IS	.01	.01		.04	.06		-.05	-.06		-.01	-.02		.02	.03	
Gender x SS	.00	.00		-.02	-.03		.07	.09*		-.02	-.03		-.03	-.04	
IS x SS	.00	.00		-.04	-.06		.07	.10*		.00	.00		.04	.06	
Gender x IS x SS	.03	.04		-.02	-.03		.07	.10*		.01	.01		-.01	-.02	
Step 2			.06***			.02*			.15***			.11***			.05***
Gender	-.02	-.02		.03	.04		.06	.09*		.17	.24***		.01	.01	
Individual secrecy (IS)	.05	.06		-.01	-.02		-.05	-.07		.03	.04		-.01	-.02	
Shared secrecy (SS)	.06	.06		-.03	-.04		.10	.12**		.05	.06		.03	.05	
Gender x IS	.01	.02		.05	.07		-.04	-.05		-.01	-.01		.02	.04	
Gender x SS	.00	.00		-.02	-.03		.07	.09*		-.02	-.03		-.03	-.04	
IS x SS	-.01	-.02		-.05	-.07		.05	.08		-.02	-.02		.03	.04	
Gender x IS x SS	.02	.03		-.03	-.04		.05	.08		.00	.00		-.02	-.03	
Confidants	.20	.22***		.09	.12**		.26	.33***		.17	.21***		.15	.20***	

Note. Variable gender is coded such that a high value indicates female. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4.7

Summary of Regression Analyses for Physical and Psychosocial Well-being, and Interpersonal Competence in Disclosure

Variable	Physical complaints			Self-esteem			Depressive mood			Loneliness			Disclosure		
	B	β	R ²	B	β	R ²	B	β	R ²	B	β	R ²	B	β	R ²
Model			.14***			.10***			.16***			.05*			.07***
Gender	.99	.34***		-.16	-.27***		.23	.31***		.09	.16*		-.04	-.05	
Type of secret	.52	.13*		-.11	-.15**		.20	.20***		.10	.13*		-.22	-.24***	
Interaction	.50	.17*		-.09	-.15*		.08	.11		.06	.11		-.14	-.19**	
Duration	.08	.03		-.03	-.06		.03	.04		.02	.04		.00	.01	
Personal relevance	.16	.07		-.03	-.06		.02	.03		-.01	-.02		.01	.01	
Importance	-.05	-.02		-.02	-.05		.03	.05		.02	.05		.02	.04	
Seriousness	.51	.24***		-.05	-.12		.11	.21**		.04	.10		.01	.02	

Note. Variable gender is coded such that a high value indicates female; variable type of secret is coded such that a high value indicates an individual secret. * $p < .05$, ** $p < .01$, *** $p < .001$.

Discussion

The present results can be summarized as follows. Above and beyond the availability of others to confide in, keeping an individual secret was associated with disadvantages in adolescence, including physical complaints, low self-esteem, depressive mood, and loneliness. Thus, consistent with our predictions, adolescents who reported keeping a secret all to themselves also reported more physical, psychological, and psychosocial problems. Keeping a shared secret, on the other hand, was not associated with any disadvantages. In fact, it was only associated with advantages, including increased interpersonal competence in the domain of disclosure. Furthermore, having a shared secret seemed to dampen the negative effect of having an individual secret on depressive mood. Thus, having a shared secret was socially advantageous and safeguarded secret-keepers from a detrimental effect of their individual secret. A similar pattern of results was obtained when individual and shared secrets were compared directly, even when controlling for the influence of possible confounding secret characteristics, including the duration, personal relevance, importance, and seriousness of the secret. Having an individual secret was linked with more physical complaints, less self-esteem, more depressive mood, more loneliness, and less competence in disclosure than having a shared secret. Taken together, these findings suggest that keeping an individual secret can be quite a dangerous undertaking, whereas keeping a shared secret poses no threat to secret-keepers and may even benefit their interpersonal competence.

Our results suggest that secrecy may be especially important for female adolescents. Not only do female adolescents keep more (individual and shared) secrets than males, but individual secrecy is also more strongly associated with disadvantages among female than among male adolescents. Further, shared secrecy is more strongly associated with advantages among female than among male adolescents. These findings suggest that female adolescents are not only more at risk when keeping secrets all to themselves, but they also have most to gain from sharing secrets.

General Discussion

Three studies provided evidence that people often share their secrets. All three studies supported our prediction that shared secrets are more common than individual secrets. Descriptive results from Studies 4.1 and 4.3 suggest that people share their secrets with their intimates only. Thus, it seems that sharing is indeed the default. People's need to disclose does not disappear when they decide to conceal something from others, and most secrets may not be as secret as is often assumed. Our findings suggest that even secrets are most often shared with one or more

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intimates. Results from Studies 4.1 and 4.2 yielded no evidence of any differences in the content of individual versus shared secrets. Results from Study 4.3 supported our hypothesis that shared secrets are less harmful for the secret-keeper than individual secrets. They also supported our hypothesis that sharing secrets contributes to interpersonal competence. Furthermore, though the two types of secrets differed on some of their characteristics (Study 4.3), these differences could not account for differences in physical and psychosocial well-being and interpersonal competence between secret-keepers with an individual secret and secret-keepers with a shared secret. Taken together, these results suggest that not all secrets are equal. It appears that secrecy is only harmful for the secret-keeper when it concerns secrets that are kept all to oneself. Our findings on the associations of keeping an individual secret with well-being are consistent with existing findings on the consequences of secrecy (e.g., Finkenauer & Rimé, 1998b; Lane & Wegner, 1995; Larson & Chastain, 1990; Pennebaker & Susman, 1988). Findings on the associations of shared secrets are not. When secrets have been shared with a confidant, secrecy does not seem harmful for secret-keepers and may even benefit their social competence. The present results further suggest that this qualification of secrecy's unsavory reputation should indeed be based on the sharing dimension of secrecy, because differences in specific content, duration, personal relevance, importance, seriousness, and other characteristics of the two types of secrets were either not found or could not account for the observed differences in secret-keepers' well-being.

The present findings may shed some new light on research on concealment and disclosure of personal information. Our findings on the associations of keeping an individual secret with well-being are consistent with existing findings on the consequences of secrecy, while findings on the associations of keeping a shared secret are more in line with the literature on disclosure of personal information. Taken together, our results suggest that sharing secrets (i.e., disclosing them to one or more close others) may alleviate the negative effects of secrecy. However, a shared secret is nevertheless a secret. In previous research, secrecy has not always been found to have detrimental effects (e.g., Kelly, 2000). Conversely, disclosure or confession does not always produce benefits (e.g., Kenardy et al., 1996; Stroebe, Stroebe, Schut, Zech, & Van den Bout, 2002). Our results suggest that these contradictory findings might be due to the fact that people often share their secrets. They suggest that shared secrecy does not produce the drawbacks that individual secrecy does, which may lead to null-effects of secrecy when research does not differentiate between individual and shared secrets. Similarly, confession of a shared secret will not produce benefits because having shared the secret will already have alleviated the negative consequences of secrecy, and further confession is no longer helpful. Thus,

the distinction between individual and shared secrets may help to explain contradictory findings on the concealment and disclosure of personal information and may help to integrate these two research traditions.

In the available literature on secrecy, there is a focus on the consequences of keeping secrets and the consequences of revealing secrets (e.g., Kelly, Klusas, von Weiss, & Kenny, 2001; Kelly & McKillop, 1996; Wegner & Lane, 1995). Though not necessarily intended, this approach implies two options. Either a secret is kept all to oneself, or a secret is revealed (and thereby effectively ceases to be a secret). Our research proposes sharing a secret as a third option. The fact that shared secrets were more prevalent than individual secrets suggests that shared secrecy constitutes a large part of how people deal with secrecy in everyday life.

From a more practical point of view, our findings suggest that it is not necessary to "let it all out" or to "get it out into the open" to relieve oneself of the detriments of secrecy. Rather than revealing ones secrets and making them public, thereby risking negative social consequences, our findings suggest that secret-keepers should find at least one confidant to share their secret with (cf. Kelly & McKillop, 1996). This will enable them to simultaneously keep potentially unfavorable or stigmatizing information secret and minimize the negative effects of the secrecy itself. Sharing secrets may also provide secret-keepers with an opportunity to "test the waters." Confidants may serve as a thermometer for what it would be like to reveal the secret to others. Furthermore, sharing their secrets may help secret-keepers to create and maintain close personal relationships.

Limitations and Suggestions for Future Research

It should be noted that, although our research examined the plausibility of the proposed relationships of individual and shared secrecy with well-being and interpersonal competence, its cross-sectional nature calls for caution when drawing conclusions on the causal direction of the observed associations. We cannot effectively rule out the alternative accounts that physical and psychosocial problems cause people to keep secrets all to themselves or that socially competent people share their secrets.

Our investigation of secrecy in adolescence focused on the sharing of secrets. We examined whom adolescents chose to share their secrets with. We did not, however, examine how they selected a confidant or whether the effect of sharing secrets varied across confidants. We also did not examine who the main targets of secrecy were. It is conceivable that the impact of keeping secrets depends on from whom they are kept and with whom they are shared (cf. Kelly & McKillop, 1996). Furthermore, though our research investigated secret content, it did not examine how the content of a secret might influence the effects of secrecy. Our results imply that differences between individual and shared secrets are not likely to be caused by

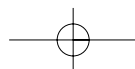
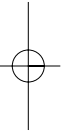
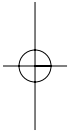
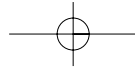
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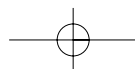
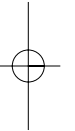
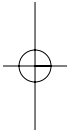
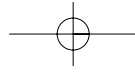
differences in content. This does not mean that content does not matter in bringing about the effects of secrecy. In fact, the associations of the seriousness of a secret with physical complaints and depressive mood suggest that content does matter. Future longitudinal research needs to examine different (types of) targets, confidants, and contents of secrets to investigate their roles and possible interplay in bringing about the disadvantages and advantages of secrecy.

The effect of sharing secrets on interpersonal relationships and social bonds requires further investigation. Despite the fact that we found a positive link between having a shared secret and interpersonal competence, it has yet to be established that sharing secrets promotes intimacy and relatedness in personal relationships. Furthermore, if it is the "doing secrecy" (Bellman, 1984) that creates feelings of closeness and belongingness among secret-keepers, it is necessary to investigate the process of sharing secrets to understand the mechanisms underlying its interpersonal benefits.

Concluding Remarks

The present research provides potent evidence to question widely held beliefs. First, most secrets are not as secret as is often assumed, but appear to be shared with at least one person. Second, shared secrets appear to be less harmful than individual secrets. Finally, sharing secrets may serve important interpersonal functions. Given this evidence, sharing of secrets is an important addition to research on secrecy that demands closer investigation.





Chapter 5

Psychosocial Correlates of Keeping a Secret: Longitudinal Contribution to Problems and Change after Confiding⁸

It is not unusual to keep a secret. Everyone has kept thoughts, feelings, and experiences hidden from others at one time or another. Despite their common occurrence, research suggests that we should not treat secrets lightly. Keeping secrets is generally considered to be stressful and burdensome for the secret-keeper, and research on secrecy confirms that it may have negative consequences such as health problems (Pennebaker & Susman, 1988), obsessive thoughts (Lane & Wegner, 1995), and emotional distress (Finkenauer & Rimé, 1998a). Conversely, confiding secrets is generally considered to alleviate the negative consequences of secrecy and to help a person assimilate and make sense of the secret information (e.g., Kelly, Klusas, von Weiss, & Kenny, 2001; Pennebaker, 1989).

The present study builds upon previous findings on the consequences of keeping and confiding secrets. Its objectives are fourfold. First, it is aimed at examining whether keeping a secret contributes longitudinally to the prediction of psychosocial problems. Second, it is aimed at examining the causal direction of the association between secrecy and psychosocial problems by comparing the predictive power of two alternative causal pathways. Third, it is aimed at further investigation of the consequences of confiding a secret by examining changes in psychosocial problems associated with confiding versus continuing to keep a secret all to oneself. Fourth, it is aimed at further investigation of the consequences of keeping a secret by examining whether people who start keeping a secret experience an increase in psychosocial problems as compared with those who do not.

Terminology

Secrecy can be defined as the intentional concealment of personal information from others (cf. Bok, 1989; Kelly, 2002). As we see it, secrets consist of information that (at least) one person actively and consciously withholds from (at least) one other person. In other words, secrets involve information that is either withheld or differentially shared between or among people (Karpel, 1980). For present purposes, our principal interest was to examine the consequences of secrets that are kept all to oneself (i.e., that are withheld from everyone). Furthermore, we were interested in examining what happens when people decide to confide in one or more others and share their secret with them. We refer to this act as confiding a secret (cf. Pennebaker, 1990). It has also been called revealing (Kelly & McKillop, 1996), confessing (e.g., Pennebaker, 1989), or disclosing (e.g., Derlega, Metts, Petronio, & Margulis, 1993) a secret. We use the term confiding secrets for two reasons. First, terms like confession or revelation

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imply lifting the veil of secrecy to make the secret public. However, given the definition, a secret that has been confided remains a secret nonetheless as long as it is concealed from others. Second, confiding secrets emphasizes the presence of a confidant and thus its interpersonal nature. This may seem obvious, but given that much of the research conducted in this area has been limited to written disclosure, it is not a trivial observation.

Detriments of Keeping Secrets

Keeping secrets is an effortful process. It requires constant active monitoring and inhibition or suppression of one's thoughts, feelings, and behavior to avoid revelation. This inhibition requires physiological work that, in and of itself, is stressful (Pennebaker, 1989). Continued active inhibition is suggested to serve as a cumulative stressor that increases the probability of psychosomatic disease and stress-related psychological problems (Pennebaker, 1989, 1997). Inhibition and thought suppression may also prevent full processing of the secret information and cause thought intrusion, which may subsequently lead to mental rumination and obsessive preoccupation with the secret (Pennebaker, 1989; Lane & Wegner, 1995) and may ultimately cause psychopathology (Wegner & Lane, 1995). Secrecy may prevent a person from organizing and assimilating the secret information and coming to terms with it (e.g., Pennebaker, 1989, 1997). Furthermore, because certain people, situations, and conversation topics will be avoided in the attempts to conceal secrets, secrecy may deprive a person of social support and validation and cause social isolation or feelings of loneliness (e.g., Brown & DeMaio, 1992; Grolnick, 1983; Imber-Black, 1993; Jung, 1961).

Research on secrecy provides evidence of its detrimental effects (e.g., Cole, Kemeny, Taylor, & Visscher, 1996; Finkenauer & Rimé, 1998b; Ichiyama et al., 1993; Kelly & Achter, 1995; Lane & Wegner, 1995; Larson & Chastain, 1990; Major & Gramzow, 1999; Pennebaker & Susman, 1988). For example, concealment of homosexual identity among HIV-seropositive gay men has been associated with increased physical health risk, depressive symptoms, and strained social relationships (Cole, Kemeny, Taylor, & Visscher, 1996; Ullrich, Lutgendorf, & Stapleton, 2003). Similarly, Finkenauer and Rimé (1998b) found that people who keep emotional secrets report more physical complaints than people who do not have emotional secrets.

In short, a growing body of empirical research and theory indicates that keeping secrets may produce a wide range of drawbacks, including physical, psychological, and social adversity. Because of these detrimental qualities of secret-keeping, much attention has been directed towards examining the potential benefits of confiding secrets. We will discuss this literature next.

Benefits of Confiding Secrets

Confiding secrets has been proposed to alleviate the negative consequences of secrecy described above and to help a person to assimilate and make sense of the secret information (Kelly & McKillop, 1996; Pennebaker, 1989, 1997). Confiding a secret breaks the repetitive cycle of thought suppression and intrusion, reduces the stress of constant inhibition, and should thus enhance physical and psychological well-being. Talking about a secret with a confidant may help a person to give meaning to the secret and gain self-understanding and control, as confidants may give helpful feedback or provide support (Kelly & McKillop, 1996). Furthermore, confiding secrets may benefit interpersonal relationships and social bonds (e.g., Christophe & Rimé, 1997; Collins & Miller, 1994; Pennebaker, Zech, & Rimé, 2001). Confiding secrets may create and maintain intimacy and relatedness in interpersonal relationships (Bellman, 1984; Simmel, 1950; Karpel, 1980; Richardson, 1988; Van Manen & Levering, 1996; Vangelisti, 1994).

In an overwhelming amount of research, talking or writing about upsetting or traumatic experiences as opposed to concealing them has been associated with improved physical health (e.g., Pennebaker & Beall, 1986; Pennebaker, Colder, & Sharp, 1990), immune function (e.g., Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994; Petrie, Booth, Pennebaker, Davison, & Thomas, 1995) and psychological well-being (e.g., Francis & Pennebaker, 1992; Greenberg, Wortman, & Stone, 1996; for a review see Smyth, 1998).

In sum, extant research indicates that confiding secrets may alleviate the detrimental consequences of secrecy. Additionally, confiding secrets may benefit interpersonal relationships.

Mixed Evidence

Although the previous sections may seem to paint a clear bad versus good picture of keeping versus confiding secrets, the evidence is not all that clear-cut. People often keep secrets out of concern about the social consequences of revelation (e.g., Bok, 1989; Larson & Chastain, 1990), and the ability to conceal information from others may be an adaptive skill in managing our social interactions (e.g. Simmel 1950; Schlenker & Weigold, 1992). For example, Kelly (2000) found that withholding unfavorable information from a therapist is associated with positive outcomes. Conversely, the impact of disclosure is not always positive (e.g., Kenardy et al., 1996; Stroebe, Stroebe, Schut, Zech, & Van den Bout, 2002), and some theorists have argued that disclosing potentially stigmatizing information may engender negative consequences (e.g., Lane & Wegner, 1995; Pennebaker, 1993).

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The Present Research

The study reported here is a longitudinal investigation of the associations of keeping and confiding a secret with psychosocial well-being in a convenience sample of 278 adolescents. Although the adolescent sample may limit the generalizability of our findings, it also provides a unique opportunity to examine the links between secret-keeping and various aspects of the self-concept that have been suggested but rarely tested (e.g., Derlega et al., 1993). Adolescence, more than any other period in life, is characterized by a search for identity (Erikson, 1959, 1968). Over the course of adolescence, young people need to form a stable sense of self that provides them with a sense of control and a feeling of comfort with who they are and what they want (e.g., Erikson, 1959, 1968; Finkenauer, Engels, Meeus, & Oosterwegel, 2002). An important consequence of keeping a secret is that one is never exposed to another person's perspective, resulting in a closed system of obsessive and disordered secret-related thoughts and distorted (self-)perceptions that are never challenged (Newth & Rachman, 2001; Pennebaker, 1997; Wegner & Lane, 1995). Keeping secrets prevents adolescents from organizing and assimilating the secret information into the self and may thus thwart self-clarification and self-understanding (e.g., Derlega et al., 1993; Pennebaker, 1989, 1997). Keeping a secret may undermine adolescents' sense of self, self-worth, and control over their lives (e.g., Derlega et al., 1993; Pennebaker, 1989, 1997). For example, one study among adolescents found that keeping secrets from parents is associated with reduced self-control (Frijns, Finkenauer, Vermulst, & Engels, in press).

In the present study, we investigated the links between keeping and confiding secrets and a wide range of psychosocial variables, including indicators of psychological well-being (i.e., depressive mood, self-esteem), indicators of a stable sense of self (i.e., self-concept clarity, self-control), and indicators of social well-being (i.e., loneliness, quality of relationships with parents and friends).

Hypotheses

On the basis of the literature and propositions discussed above, we formulated three main hypotheses. First, based on previous findings and theorizing on secrecy, we predicted that keeping a secret should contribute longitudinally to psychosocial problems. We believe this link to be causal, but theoretically, the link between secret-keeping and psychosocial problems could work the other way around as well. That is, psychosocial problems may lead people to keep secrets. The present longitudinal study provides a unique opportunity to compare these two alternative causal pathways. We predicted that the longitudinal contribution of secrecy to psychosocial problems should be greater than the longitudinal contribution

of psychosocial problems to predicting secrecy. Second, we predicted that the psychosocial well-being of people who confide their secret should improve as compared with those who do not confide their secret. Finally, we predicted that people who start keeping a secret should experience an increase in psychosocial problems as compared with those who do not. The present study contributes to the existing literature by addressing the issue of causality in the links between keeping a secret and psychosocial well-being. It further contributes to the existing literature by examining the consequences of both starting to keep a secret and confiding a secret that has been kept all to oneself.

Method

Procedure and Sample Characteristics

The sample consisted of 278 adolescents enrolled in secondary education whose schools participated in a larger research project on communication and concealment in adolescence. As a part of this project, a total of 3 schools in the Netherlands participated in a two-wave longitudinal survey study. Before the questionnaires were administered, parents were informed about the aims of the study and could return a form stating that they did not want their child to participate (although some parents requested additional information, none of the parents returned this form).

The first wave of data collection (T1) was conducted in the winter of 2001, and the second wave of data collection (T2) was conducted 6 months after T1 in the summer of 2002. At both waves, the questionnaires were filled out in the classrooms in the presence of either the principle researcher or a teacher, who had received instructions on how to administer the questionnaire. Confidentiality and anonymity were rigorously respected. No explicit refusals were recorded; non-response was exclusively due to the adolescent's absence at the day of assessment.

Overall, 448 adolescents provided complete data. Because of privacy concerns, we were unable to provide participants at T2 with the answers concerning secret-keeping and the description of their secret they provided at T1. We therefore asked participants at T2 to recall their original response. The recall of 170 participants did not match their original response (i.e., 42 did not recall having a secret, 116 recalled a secret they did not originally report, and 12 could not recall their original answer). To safeguard the interpretability of the results, we excluded the data of these participants from our analyses. This study is based on the remaining 278 (62.1%) adolescents who provided complete and consistent data at both waves. Comparisons between participants with correct versus incorrect recall yielded no significant differences in any demographic or psychosocial variables.⁹

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The final sample consisted of 119 (42.8%) boys and 159 girls. The mean age of the adolescents at T1 was 15.6 years ($SD = 0.99$). Most adolescents ($N = 251$, 90.3%) were of Dutch nationality. The majority of the adolescents ($SD = 228$, 82.0%) lived with two parents, 13.3% lived with their mother, 1.4% lived with their father, and 3.3% lived with other family members or in institutions.

Questionnaires

At T1, all participants were given a broad definition of secrets that emphasized that a secret concerns information that is intentionally concealed from others. They were then asked to indicate whether they were currently keeping a secret all to themselves (*yes* or *no*), defined as "a secret that you have never talked about or shared with anyone."

At T2, participants were asked about the status of their secret. Those who had reported not keeping a secret all to themselves at T1 now indicated whether they were currently keeping such a secret (*yes* or *no*), whereas those who had reported keeping a secret all to themselves at T1 now indicated whether they had shared their secret with anyone in the meantime (*yes* or *no*). If they had shared their secret, they were asked to indicate with how many people they had shared their secret ($1 = 1$ person; $4 = 4$ persons or more) and to identify the relationship of the person(s) with whom it had been shared (i.e., *best friend*, *a friend*, *mother*, *father*, *other family member*, *partner*, *acquaintance*, *teacher*, and *other*).

Depressive mood. Kandel and Davies' (1982) 6-item Kandel Depression Scale was used to assess depressive mood. Participants rated the frequency ($0 = \text{never}$; $4 = \text{always}$) with which they experienced symptoms of depressive mood such as feeling nervous and tensed. Their responses were averaged to yield a depressive mood score; higher values indicated more frequent feelings of depression (Cronbach's $\alpha = .79$ and $.82$ at T1 and T2, respectively).

Self-esteem. Rosenberg's (1965) self-esteem scale assessed participants' perceived self-value or sense of worth (e.g., "Sometimes I feel that I am completely useless," "In general I am happy with myself"). This scale is often taken as an indicator of psychosocial adjustment among adolescents (Kahle, Kulka, & Klingel, 1980). It consists of 10 items and responses were given on a scale ranging from 1 (*very descriptive of me*) to 4 (*not at all descriptive of me*). In our study, this scale had high internal consistency (Cronbach's $\alpha = .86$ and $.88$ at T1 and T2, respectively).

Self-concept clarity. The self-concept clarity scale developed by Campbell et al. (1996) assesses the extent to which participants' self-beliefs are clearly and confidently defined, internally consistent, and stable. The scale consists of 12 items rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Item examples are "My beliefs about myself often conflict

with one another" or "Even if I wanted to, I don't think I could tell someone what I'm really like". Responses were averaged to yield a self-concept clarity score with higher values indicating greater clarity. In our study, the internal consistency of the scale was Cronbach's $\alpha = .82$ and $.86$ at T1 and T2, respectively.

Self-control. To assess self-control, a shortened version of the self-control scale developed by Tangney, Baumeister, and Luzio Boone (2004) was employed. The self-control scale aims to assess people's ability to control their impulses, alter their emotions and thoughts, and to interrupt undesired behavioral tendencies and refrain from acting on them (for a review on the conceptualization see Muraven & Baumeister, 2000; for information on the reliability of the Dutch translation see Van Duijn, 2000; Van Kooten, 2000). The shortened version consists of 8 items rated on a scale ranging from 1 (*not at all*) to 5 (*very much*). Item examples are "I have trouble concentrating" (reverse scored) or "I am lazy" (reverse scored). Responses were averaged to yield a self-control scale with higher values indicating greater feelings of self-control. In our study, the internal consistency of the shortened scale was Cronbach's $\alpha = .71$ and $.77$ at T1 and T2, respectively.

Loneliness. Loneliness was assessed using a shortened version of the revised UCLA Loneliness scale (Russel, Peplau, & Cutrona, 1980), which was translated into Dutch using a translation-back-translation procedure. The scale consists of 10 statements concerning the extent to which people feel lonely (e.g., I feel left out). Participants rated the items on a scale ranging from 1 (*not at all true for me*) to 5 (*very true for me*). Responses were averaged to yield a loneliness score; higher values indicated greater feelings of loneliness (Cronbach's $\alpha = .86$ and $.87$ at T1 and T2, respectively).

Quality of relationship with friends and parents. To assess the quality of the relationship with their parents and friends, participants rated each relationship on 10 adjectives (e.g., very good, pleasant, valuable, difficult (reverse scored), cf. Campbell, Converse, & Rodgers, 1976). We chose this measure, because it does not refer to interpersonal behaviors related to communication (e.g., I can talk openly with this person) as do most of the commonly used relationship satisfaction questionnaires (e.g., Locke & Wallace, 1959). It thereby reduces the risk of the scale yielding artificially high correlations with disclosure (see Fincham & Bradbury, 1987, for a detailed discussion). Participants rated both relationships on 5-point scales (e.g., 1 = *not at all*; 5 = *very much*). In our study, the internal consistencies were high (Cronbach's $\alpha = .92$ and $.91$ for quality of relationship with parents, and $.87$ and $.88$ for quality of relationship with friends). Participants' ratings were averaged to establish two relationship quality

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scores; higher values on these scores indicated greater quality of the relationship.

Results

Descriptives

At T1, 101 participants (36.3%) reported keeping a secret all to themselves, whereas 177 participants reported not keeping such a secret. Of the participants who reported not keeping a secret at T1, 146 (82.5%) still had no secret to report at T2, whereas 31 reported keeping a secret at T2. Of the participants who reported keeping a secret at T1, 48 (47.5%) reported that they were still keeping their secret, while 53 reported that they had confided their secret. Of the secrets that were confided, 26 (49.1%) were shared with one confidant, 15 (28.3%) were shared with two people, 2 (3.8%) were shared with three people, and 7 (13.2%) were shared with four persons or more.

Confidants of secret-keepers

It appears that secret-keepers predominantly confide their secrets to close others. Best friends ($N = 29$, 54.7%) were the most frequently mentioned confidants, followed by friends ($N = 14$, 26.4%) and partners ($N = 14$, 26.4%). Other frequently mentioned categories of confidants were family members, with mothers ($N = 13$, 24.5%) mentioned most frequently, followed by fathers ($N = 6$, 11.3%) and other family members ($N = 6$, 11.3%). Acquaintances ($N = 1$, 1.9%), teachers ($N = 0$), and others ($N = 2$, 3.8%) were rarely mentioned. Other confidants who were mentioned included ex-boyfriend and school counselor.

Is Secret-Keeping Related to Psychosocial Problems?

Table 5.1 provides data on the means and standard deviations of the variables assessed in this study. To examine whether secret-keeping is related to psychosocial problems, we performed t-tests on these variables at T1 and T2, comparing those participants who had reported keeping a secret (at T1) and those who had reported not keeping a secret. Keeping a secret at T1 was associated with more depressive mood, lower self-esteem, lower self-concept clarity, lower self-control, and poorer quality of the relationship with parents at T1. It was also associated with more depressive mood, lower self-esteem, lower self-concept clarity, lower self-control, more loneliness, and poorer quality of the relationship with parents at T2. Keeping a secret at T1 was not associated with the quality of the relationship with friends, neither at T1 nor at T2. Thus, we found both cross-sectional and longitudinal associations between keeping a secret and psychosocial problems.

Table 5.1
Means and Standard Deviations of the Assessed Variables

Variable	T1						T2					
	Secret		No secret		Total sample		Secret at T1		No secret at T1		Total sample	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Depressive mood	2.75	0.66	2.25***	0.70	2.43	0.72	2.69	0.70	2.22***	0.71	2.39	0.74
Self-esteem	3.11	0.54	3.36***	0.49	3.27	0.52	3.13	0.61	3.38***	0.52	3.29	0.57
Self-concept clarity	3.15	0.61	3.65***	0.69	3.47	0.70	3.20	0.73	3.66***	0.58	3.49	0.68
Self-control	3.10	0.65	3.29*	0.61	3.22	0.63	3.05	0.52	3.36***	0.61	3.25	0.60
Loneliness	1.80	0.60	1.69	0.58	1.73	0.59	1.88	0.68	1.68**	0.55	1.75	0.61
Relationship quality												
parents	3.87	0.88	4.20**	0.68	4.08	0.77	3.88	0.77	4.25***	0.64	4.12	0.71
friends	4.26	0.56	4.34	0.53	4.31	0.54	4.20	0.59	4.32	0.54	4.28	0.56

Note. * $p < .05$; ** $p < .01$, *** $p < .001$.

Chapter 5**Longitudinal Prediction of Psychosocial Problems**

To examine the longitudinal contribution of keeping a secret to psychosocial problems, we conducted regression analyses on the psychosocial variables at T2, while controlling for these variables at T1. Accordingly, we entered the psychosocial variables at T1 into the equation in the first step of each of the regression analyses. In the second step, we added secret-keeping into the equation to assess its relative contribution to the prediction of psychosocial well-being.

Tables 5.2 and 5.3 provide summaries of the results of these analyses. In each of the analyses, the corresponding T1 variable predicted the psychosocial T2 variable when entered in Step 1, and remained the strongest predictor in the second step, explaining between 26 and 51% of the variance. Above and beyond concurrent psychosocial well-being, keeping a secret predicted depressive mood, self-concept clarity, self-control, loneliness, and quality of the relationship with parents. In line with our predictions, all these associations were in the direction of lower psychosocial well-being when keeping a secret. Keeping a secret did not contribute significantly to the longitudinal prediction of self-esteem and the quality of the relationships with friends.

Longitudinal Prediction of Secret-keeping

To examine the plausibility of an opposite causal direction, that is, of psychosocial problems causing secrecy, we performed binary logistic regression analyses on secret-keeping at T2 with the psychosocial variables at T1 as predictors. To control for secret-keeping at T1, it was entered into the equation in the first step before adding the psychosocial variable in the second step. None of the psychosocial variables significantly predicted whether participants kept a secret at T2. Except for loneliness (Wald = 3.14, $p = .076$), none of the psychosocial variables even came close to significance (all Wald < 1.60, p 's > .20). We also performed binary logistic regression analyses separately for participants who reported keeping a secret at T1 and those who reported not keeping a secret at T1. None of the psychosocial variables significantly predicted whether non secret-keepers would have started to keep a secret at T2 (all Wald < 0.70, p 's > .40). Among secret-keepers, loneliness significantly predicted whether they would have confided their secret at T2 (Wald = 4.13 $p = .042$), whereas the quality of the relationship with friends came close to significance (Wald = 2.85, $p = .091$).

These associations were in the direction of a greater probability of having confided the secret at T2 when loneliness was low and relationship quality was high at T1. None of the other psychosocial variables came close to significance in predicting confiding (all Wald < 1.20, p 's > .30).

Predicting Change over Time

To examine whether confiding and starting to keep a secret are associated with changes in psychosocial well-being, we performed 2 (secret-status) by 2 (wave) mixed design ANOVAs. We divided participants into two groups based on whether they had reported keeping a secret at T1. For secret-keepers, the between-subjects variable was whether they had confided their secret to anyone at T2 (confiding, see Table 5.4). For non secret-keepers, the between-subjects variable was whether they were keeping a secret at T2 (secret-keeping, see Table 5.5).

As can be seen in Tables 5.4 and 5.5, none of the psychosocial variables showed overall change between the two waves. Thus, psychosocial well-being was rather stable over time. However, participants who confided their secret evidenced a decrease in depressive mood, and increases in self-concept clarity and self-control as compared with those who did not confide their secret (Table 5.4).

Participants who took up keeping a secret, on the other hand, showed a significant increase in depressive mood, and significant decreases in self-esteem and self-concept clarity as compared with those who were still not keeping a secret (Table 5.5). No significant differences were found in changes in any of the other psychosocial variables.

Discussion

The present research addressed the ramifications of secrecy beyond people's feelings and evaluations concerning secret information and examined whether keeping and confiding a specific secret have any bearing on more general measures of well-being and adjustment. It examined the longitudinal contribution of keeping a secret to psychosocial problems and investigated changes in psychosocial well-being associated with confiding and starting to keep a secret. To our knowledge, it is the first study to provide evidence of the detrimental consequences of keeping a secret all to oneself and of the benefits of confiding such a secret. It is also the first study to address the issue of causality in the associations between keeping a secret and psychosocial well-being. Its results can be summarized as follows.

Above and beyond concurrent psychosocial well-being, keeping a secret contributed longitudinally to psychosocial problems in adolescence, including depressive mood, low self-esteem, low self-concept clarity, low self-control, loneliness, and poor quality of the relationship with parents. Thus, consistent with our predictions, adolescents who reported keeping a secret all to themselves also reported more psychosocial problems six months later. Psychosocial problems could not, however, predict whether adolescents would be keeping a secret six months later. The only significant association we found was between loneliness and confiding a secret.

Table 5.2
Summary of Hierarchical Multivariate Regression Analyses for Psychosocial Well-being

Variable	Depressive mood			Self-esteem			Self-concept clarity			Self-control		
	B	β	R ²	B	β	R ²	B	β	R ²	B	β	R ²
Step 1												
Variable at T1	.62	.60***	.36***	.77	.71***	.50***	.64	.66***	.44***	.69	.71***	.51***
Step 2												
Variable at T1	.58	.56***	.37***	.75	.70***	.50***	.61	.62***	.45***	.67	.69***	.53***
Secret-keeping	.18	.12*		-.06	-.05		-.15	-.11*		-.18	-.14**	

Note. Variable secret-keeping is coded such that a high value indicates keeping a secret.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5.3
Summary of Hierarchical Multivariate Regression Analyses for Psychosocial Well-being

Variable	Loneliness			Relationship quality parents			Relationship quality friends		
	B	β	R ²	B	β	R ²	B	β	R ²
Step 1									
Variable at T1	.67	.65***	.42***	.60	.65***	.42***	.53	.51***	.26***
Step 2									
Variable at T1	.66	.64***	.43***	.58	.62***	.44***	.52	.50***	.26***
Secret-keeping	.13	.10*		-.21	-.14**		-.07	-.06	

Note. Variable secret-keeping is coded such that a high value indicates keeping a secret.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5.4

Within Subjects Effects of Analyses of Variance of Psychosocial Well-being for T1 Secret-keepers

Source → Variable ↓	Wave				Wave x Confiding				error	
	df	F	η^2	p	df	F	η^2	p	df	
Depressive mood	1	1.14	.012	.288	1	7.15**	.071	.009	94	(0.21)
Self-esteem	1	0.50	.005	.481	1	0.56	.006	.456	94	(0.07)
Self-concept clarity	1	1.05	.011	.307	1	4.46*	.046	.037	93	(0.14)
Self-control	1	1.61	.017	.208	1	4.23*	.043	.043	94	(0.12)
Loneliness	1	1.47	.015	.228	1	.463	.005	.498	94	(0.15)
Relationship quality										
parents	1	0.16	.002	.690	1	0.51	.005	.477	94	(0.22)
friends	1	0.78	.008	.380	1	1.20	.013	.277	93	(0.15)

Note. Values in parentheses represent mean square errors. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5.5

Within Subjects Effects of Analyses of Variance of Psychosocial Well-being for T1 Non Secret-keepers

Source → Variable ↓	Wave				Wave x Secret-keeping				error	
	df	F	η^2	p	df	F	η^2	p	df	
Depressive mood	1	1.48	.009	.226	1	7.96**	.044	.005	171	(0.20)
Self-esteem	1	2.18	.012	.142	1	10.26**	.056	.002	172	(0.09)
Self-concept clarity	1	1.83	.011	.178	1	4.06*	.024	.046	163	(0.17)
Self-control	1	2.20	.013	.140	1	.032	.000	.859	165	(0.10)
Loneliness	1	0.10	.001	.749	1	1.08	.006	.301	171	(0.12)
Relationship quality										
parents	1	0.01	.000	.916	1	1.40	.008	.238	171	(0.18)
friends	1	0.65	.004	.420	1	0.28	.002	.598	168	(0.15)

Note. Values in parentheses represent mean square errors. * $p < .05$, ** $p < .01$, *** $p < .001$.

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That is, the more lonely adolescents who kept a secret were, the less likely they were to confide their secret. In line with our prediction, these results seem to favor a causal direction of these associations from secret-keeping to psychosocial problems. Furthermore, participants who reported having confided their secret showed an increase in psychosocial well-being, including decreased depressive mood, increased self-concept clarity, and increased self-control, as compared with those who continued to keep their secret all to themselves. Thus, participants seemed to benefit from confiding their secret. Conversely, participants who started to keep a secret showed a decrease in psychosocial well-being, including increased depressive mood, decreased self-esteem, and decreased self-concept clarity, as compared with those who were still not keeping a secret. These findings provide additional evidence that keeping a secret may be detrimental to well-being.

The general pattern of results is in line with our predictions. However, a number of findings deserve further discussion. We found no links whatsoever between keeping or confiding secrets and the quality of the relationship with friends, but we did find a negative link between keeping a secret and the quality of the relationship with parents. This could indicate that adolescents simply do not keep many secrets from their friends, but keep secrets mainly from their parents. Additionally, these findings may indicate that peer relationships do not suffer from secret-keeping as much as adolescent-parent relationships do (see also Finkenauer, Engels, & Meeus, 2002; Frijns, Finkenauer, Vermulst, & Engels, in press). Building friendships and establishing a social network outside the family is an important developmental task in adolescence (e.g., Cotterell, 1996), a task that may simply not be compatible with keeping secrets from friends. In contrast to these horizontal peer relationships, parent-child relationships are mainly vertical. As a rule, parents have the upper hand as they have more knowledge and social power than their children (Russell, Pettit, & Mize, 1998). Keeping secrets from parents provides adolescents with a way to evade punishment, criticism, and embarrassment (cf. Guerrero & Afifi, 1995). There is some evidence that adolescents may employ secrecy from parents as a means to become independent from them (Finkenauer, Engels, & Meeus, 2002). When adolescents start to keep secrets from their parents, this may indicate changes in the relationship. Parents may resent their child keeping secrets from them and read it as indicating that their child does not trust them anymore. Negative parental reactions and the ensuing cycle of mutual distrust will be detrimental to the quality of the adolescent-parent relationship.

Keeping a secret contributed longitudinally to feelings of loneliness and reduced quality of the relationship with parents, but confiding or starting to keep a secret yielded no changes in these variables. It is likely that

confiding a secret may only affect the quality of the relationship with parents when it is confided to one's parents. Similarly, starting to keep a secret all to oneself may affect the quality of the relationship with parents only if parents are the primary secret-targets. Alternatively, given the longitudinal contribution of keeping a secret to relationship quality, starting to keep a secret may indicate the onset of changes in the relationship with parents, but it may take some time before relationship quality is affected. In a similar vein, feelings of loneliness may be affected depending on how close primary secret-targets or confidants are to the secret-keeper. Unfortunately, we did not examine who the primary targets of participants' secrets were, and although we assessed who participants chose as confidants, insufficient sample size precluded analysis of differences across confidants. Examining how the consequences of keeping and confiding secrets may vary across different targets and confidants presents a challenge for future research.

Finally, it should be noted that the longitudinal contribution of keeping a secret to psychosocial problems was small. The effect sizes obtained in the analyses of confiding and starting to keep a secret were equally small. Nevertheless, the fact that a relatively small aspect of people's lives, namely keeping one specific secret, contributed significantly to the longitudinal prediction of several indicators of psychosocial well-being that are influenced by a wide variety of factors in everyday life, makes secret-keeping a relevant and potentially powerful factor in the occurrence and persistence of psychosocial problems.

Limitations and Suggestions for Future Research

By nature, secrets are elusive. People consciously and actively conceal their secrets from others and may even bury them so deep inside as to elude even themselves. Any attempt to study secrecy therefore faces selection biases. Though our emphasis on privacy and anonymity probably diminished selection biases, it also contributed to them. Many participants did not recall their original answers concerning secret-keeping, resulting in a considerable loss of participants for our analyses. This loss might have been less had we provided participants with their original answer, but the fact that so much incorrect recall was recorded also raises some interesting questions. What makes people apparently forget about their secret? Are some people so successful at suppressing thoughts of their secret that they forget about it altogether, or are some (types of) secrets simply more forgettable than others? And what makes people recall a secret that they did not originally report? Did our snapshot measurement simply miss secrets that participants started keeping soon thereafter, or are people unwilling to acknowledge the existence of a secret even in an anonymous setting, perhaps reporting it only in retrospect after it has been confided?

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Our investigation of secrecy focused on the consequences of keeping and confiding secrets. We based our hypotheses on theoretical propositions concerning the consequences of secrecy, but we did not explicitly investigate the mechanisms underlying the associations between keeping and confiding secrets and psychosocial well-being. In our investigation of confiding secrets we examined whom adolescents chose as confidants. We did not, however, examine how they selected a confidant or whether the effect of confiding secrets varied across confidants. Nor did we examine who the main targets of secrecy were. It is conceivable that the impact of keeping secrets depends on from whom they are kept and with whom they are shared (cf. Kelly & McKillop, 1996). Confidants may be especially important in determining the interpersonal effects of secrecy. Whether confiding a secret produces positive relational outcomes likely depends on the specific confidant(s) and their reaction to the disclosure. Similarly, the specific content of a secret will in part determine a confidant's reaction and should thus qualify the relational consequences of confiding a secret.

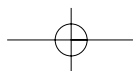
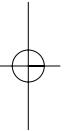
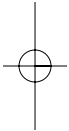
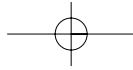
Despite the fact that our research examined the plausibility of the proposed relationships of keeping and confiding a secret with psychosocial well-being, a number of issues call for caution when drawing conclusions on the causal direction of the observed associations. First, our study used a dichotomous measure of secret-keeping and continuous psychosocial measures. Therefore, we were unable to examine the strengths of the alternative causal directions simultaneously. Second, although the relevant measures were obtained at two waves of data collection, which strengthens the case for causality, our results do not provide definite proof of causality. Third, because there was no experimental control over participants' decision to confide their secret or to start keeping a secret, the associations of these actions with psychosocial well-being carry no clues regarding their causal direction. That is, increases in psychosocial well-being may have caused secret-keepers to confide their secret or decreases in well-being may have caused non secret-keepers to start keeping a secret.

Finally, the adolescent sample used in the present study may limit the generalizability of the findings. Adolescents' secrets may differ in a variety of unknown ways from adults' secrets. Although our predictions are general in that we would predict similar consequences of keeping and confiding secrets for adults, some of the findings may be specific to adolescents. For example, among adolescents and adults alike, keeping secrets should strain social relationships and lead to increased feelings of loneliness. However, the social relationships of adolescents are different from those of adults. Given the changes in the relationships with parents and friends that occur during adolescence, the detrimental effects of secret-keeping on the relationship with parents may be more pronounced among adolescents, whereas effects on peer relationships may be more readily found among

adults. Furthermore, the implications of secret-keeping for self-concept clarity may be especially large among adolescents, who are at a time in their lives when identity issues are of primary importance.

Concluding Remarks

The present research provides potent evidence to suggest that keeping secrets does not come free of charge. Findings further suggest that confiding one's secrets may help to minimize the costs of secret-keeping. Taken together, the present findings suggest that the secrets that adolescents keep or confide may affect various aspects of their psychosocial well-being and adjustment. As such, the present findings have important implications for counselors and more generally for everybody involved with adolescents. They underline the importance of recognizing the burden that secrets may impose on adolescents, and attest to the mitigating effects of confiding one's secrets (cf. Kelly & McKillop, 1996). Given this evidence, it would be worthwhile to further investigate the price that people pay for keeping secrets and the extent to which confiding secrets may minimize these costs of secrecy.



Chapter 6

General Discussion

The purpose of the present dissertation was to investigate the consequences of secrecy. Specifically, the studies presented in this dissertation employed both cross-sectional and longitudinal designs to examine the associations of quantitative (i.e., the extent to which secrets are kept from parents and the extent to which parents perceive that secrets are kept from them) and qualitative (i.e., keeping an individual versus a shared secret) aspects of secrecy. We selected a variety of outcome measures in the different studies to capture the consequences of secrecy for secret-keepers, secret-targets, and their relationships. In this concluding chapter, we will take stock of the research presented in this dissertation. We will briefly summarize the main findings, evaluate these findings in the light of the goals we set in Chapter 1, point out the strengths and limitations of our research, discuss a number of implications of our findings, and suggest some broad directions for future research.

Overview of the Main Findings

In the first empirical part of this dissertation, we investigated the intra- and interpersonal consequences of adolescents' secrecy in their relationships with their parents. In Chapter 2, we investigated the consequences of keeping secrets from parents for adolescents' psychological well-being and behavioral adjustment. Specifically, we investigated the predictive power of secrecy from parents by examining its associations longitudinally. We predicted that the psychological disadvantages of secrecy found among adults and adolescents would hold longitudinally in adolescence, even when controlling for existing psychological problems. We extended the investigation of secrecy's disadvantages by examining secrecy's relation to problem behaviors. Finally, we hypothesized that secrecy from parents contributes to adolescent development by increasing feelings of self-control in adolescence. In line with predictions, results revealed that keeping secrets from parents was associated with psychological and behavioral problems, and contributed longitudinally to these problems. Also, secrecy from parents showed strong concurrent and longitudinal associations with self-control. Contrary to our prediction, however, it predicted lower levels of self-control. Thus, adolescents who reported keeping many secrets from their parents also reported more psychological problems, more behavioral problems, and less self-control. These results held even when controlling for the influence of other characteristics of the adolescent-parent relationship. Taken together, these results suggest that secrecy from parents constitutes an important risk factor in adolescent well-being, problem behavior, and self-control.

In Chapter 3, we focused on the other side of the coin. That is, we investigated the implications of adolescents' secrecy from parents for their

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parents. Specifically, we examined the implications of (perceptions of) adolescents' concealment for parents' behavior toward their child. We hypothesized that parents' perceptions of their child's concealment should predict poorer parenting behavior toward their child. Further, we asked whether actual child concealment would add in any way to the prediction of parenting behavior. We advanced two arguments about the ways in which the interplay between actual and perceived concealment might add to the prediction of parenting behavior. Confirming our hypothesis, the results of two studies demonstrated that parents' perception of child concealment is associated with poorer parenting behavior toward their child. We replicated this finding for parents' perception of their child's lying. The observed links emerged above and beyond parents' perception of disclosure from their child. Further, we found little support for the suggestion that actual child concealment may interact with parental perceptions in the prediction of parenting behaviors. Thus, while parents' perceptions of child concealment may be different from their child's actual concealment, they are strongly linked to their parenting behavior, regardless of whether their child actually concealed information from them. These results suggest that from parents' perspective, their child's concealment conveys a relational message of separation and rejection to which they react with behavioral withdrawal.

In the second empirical part of this dissertation, we shifted our focus from quantity to quality, that is, instead of focusing on the amount of secrecy, we examined the consequences of keeping different types of secrets. We introduced a distinction between secrets that are kept all to oneself and secrets that are shared with at least one confidant. We compared these two types of secrets on a number of characteristics and examined their links with well-being and adjustment. Further, we investigated the consequences of keeping an individual secret longitudinally, and examined changes in well-being associated with confiding such a secret.

In Chapter 4, we proposed a distinction between two types of secrets: Individual secrets and shared secrets. We proposed that secrets are generally shared with at least one person and predicted that shared secrets should therefore be more common than individual secrets. Further, we predicted that shared secrets should be less harmful for the secret-keeper than individual secrets, because sharing secrets should alleviate the detrimental effects of secrecy. Moreover, we proposed that sharing secrets serves as a skill in relationship maintenance, and should thus be associated with improved interpersonal competence. The results of three studies provided support for our proposed distinction. In all three studies, shared secrets were found to be far more prevalent than individual secrets. The results of two studies yielded no evidence of any differences in the content of individual versus shared secrets, indicating that sharing occurs independent of the specific secret-content. In the third study, keeping an

individual secret was associated with physical and psychosocial disadvantages. Keeping a shared secret, on the other hand, was not associated with any disadvantages. In fact, it was only associated with advantages, including increased interpersonal competence. A similar pattern of results was obtained when individual and shared secrets were compared directly while controlling for the influence of possible confounding secret characteristics. Taken together, these results suggest that not all secrets are equal. Most secrets are not as secret as is often assumed, but have been shared with at least one person. These shared secrets appear to be less harmful for secret-keepers than secrets that are kept all to oneself and may benefit their interpersonal competence.

Finally, in Chapter 5, we investigated the longitudinal associations of keeping and confiding a secret. We predicted that keeping an individual secret should contribute longitudinally to psychosocial problems. Furthermore, we predicted that the psychosocial well-being of people who confide their secret should improve as compared with those who continue to keep their secret all to themselves. Finally, we predicted that people who start to keep a secret all to themselves should experience an increase in psychosocial problems as compared with those who do not. In line with predictions, results showed that keeping an individual secret contributed longitudinally to psychosocial problems above and beyond concurrent psychosocial well-being. Psychosocial problems could not, however, predict secret-keeping longitudinally. Furthermore, participants who reported having confided their secret showed several increases in psychosocial well-being as compared with those who continued to keep their secret all to themselves. Conversely, participants who started to keep a secret showed several decreases in psychosocial well-being as compared with those who were still not keeping a secret. Taken together, these results indicate that keeping secrets all to oneself may play a causal role in the development of psychosocial problems. They further suggest that confiding ones secrets may help to minimize these costs of secret-keeping.

Overview of the Main Goals

In Chapter 1, we identified a number of gaps in our knowledge of the consequences of secrecy and pointed out some issues that had not yet received the attention that we believe they deserved. The aim of the present dissertation would be to address these issues. In this section, we will evaluate our success at accomplishing the goals we set.

Secrecy: Cause or Effect?

A first goal of our research was to address the issue of causality in the associations of secrecy. In Chapters 2 and 5, we have presented longitudinal studies designed to assess the predictive power of secrecy from

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parents and keeping an individual secret concerning well-being and adjustment. We consistently found that secrecy contributed longitudinally to psychosocial problems above and beyond concurrent psychosocial well-being. In Chapter 5, psychosocial problems did not predict secret-keeping longitudinally. Furthermore, starting to keep an individual secret was associated with increased psychosocial problems, whereas confiding an individual secret was associated with decreased psychosocial problems. Taken together, these findings provide evidence that secrecy may indeed be a causal factor in the occurrence and development of psychosocial problems. They suggest that keeping many secrets from ones parents and keeping secrets all to oneself may give rise to a wide variety of psychosocial problems. More longitudinal research is needed to further examine the causal pathways in the links between secrecy and psychosocial problems. Such research may help to disentangle the effects of keeping secrets on well-being and the influence of psychosocial problems on secret-keeping, and may illuminate mutually amplifying effects of secrecy and psychosocial problems. Furthermore, because the deleterious effects of secrecy have been proposed to be cumulative (e.g., Pennebaker, 1989; Pennebaker & Susman, 1988), future research should examine the associations of secrecy over longer periods of time.

It Takes Two to Tango: Considering Secret-targets

A second goal of our research was to examine the consequences of secrecy for the targets of secrecy. In Chapter 3, we have presented two studies that investigated the associations between adolescents' concealment from parents, parental perceptions of their child's concealment, and parents' behavior toward their child. As a testimony to the importance of studying secrecy from the perspective of its targets, we found that parental perceptions of child concealment were strongly linked to their parenting behavior toward their child. The pattern of results suggests that, from parents' perspective, their child's concealment conveys a relational message of rejection to which parents react by withdrawing their support and acceptance of their child. These findings suggest that concealment may not only affect secret-keepers but also secret-targets. They open up the possibility that the effects of concealment on secret-keepers' psychosocial well-being may in part arise through targets' reactions to their perceptions of concealment.

All Secrets are Equal? Considering Shared Secrets

A final goal of our research was to qualify secrecy's unsavory reputation by investigating the differential effects of individual and shared secrets. In Chapter 4, we have presented three studies that compared individual and shared secrets with respect to their specific contents, secret-keepers'

evaluations of their secret, and their associations with physical well-being and psychosocial adjustment. We found no significant differences in the content of individual versus shared secrets, and although we found some differences in other secret-characteristics, these differences could not account for the differential associations of the two types of secrets with well-being and adjustment. In Chapter 5, we provided evidence that although keeping an individual secret contributed longitudinally to psychosocial problems, these problems were reduced once a secret had been shared with a confidant. Overall then, we have made a strong case that not all secrets are equal. Only individual secrecy was associated with disadvantages. Shared secrecy was not associated with any disadvantages, but was linked with increased interpersonal competence.

Strengths and Limitations

Although we have already discussed the strengths and limitations of our studies in the previous chapters, we would like to briefly reiterate the major strengths and limitations of our research before discussing its implications. Its strengths include the use of longitudinal designs that allowed us to investigate the predictive power of secrecy, and the investigation of secrecy from the perspectives of both secret-keepers and secret-targets. Further strengths of our research are the collection of data from large samples and the selection of a wide variety of outcome-measures, including measures of physical, psychological, behavioral, and social well-being and adjustment. We have selected measures that enabled us to capture possible negative as well as positive consequences of secrecy.

While the methods and samples have strengths, they also have limitations. Our research consisted of cross-sectional and longitudinal survey studies among adolescent and adolescent-parent samples. Although our longitudinal, prospective studies support our hypothesized causal pathways, they do not provide definite proof of causality. Such proof would require additional research using experimental methods to examine cause and effect or, given the limitations of experimental research on secrecy, extended longitudinal studies or diary studies to examine the process of change over time. Our focus on secrecy among adolescents and in the adolescent-parent relationship may limit the generalizability of our findings to people in general and to other types of relationships. Finally, our studies focused mainly on the investigation of the consequences of secrecy, not on the specific mechanisms that produce these consequences.

Implications and Speculations

Taken together, the findings reported in this dissertation demonstrate that secrecy is a unique and multi-faceted social phenomenon that touches many different aspects of people's lives. The secrets that people keep from

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others, but also the ones they share with others, may have important ramifications for their physical, psychological, behavioral, and social well-being and adjustment. Moreover, they may affect their interpersonal interactions and relationships and their relationship partners for good or for bad, depending upon the amount and type of secrecy. In each empirical chapter, we have outlined some specific implications of the research it presented. We will now discuss some broader implications of our research.

Keeping Secrets in Relationships

The research presented in the first empirical part of this dissertation shows that keeping secrets may adversely affect secret-keepers and their relationship with the secret-target. Secrecy from parents may contribute to internalizing problems (e.g., depressive mood and stress) and externalizing problems (e.g., aggressive and delinquent behavior), but may also adversely affect parents' behavior toward their child. Because parenting is an important factor in adolescent development, our findings imply that by keeping secrets from their parents, adolescents may be setting themselves up for "double trouble". On the one hand, the intrapersonal consequences of secrecy (e.g., Lane & Wegner, 1995; Pennebaker, 1989) may give rise to psychosocial problems. On the other hand, changes in parenting may add to adolescents' psychosocial and behavioral problems. Changes in parenting may result from parental withdrawal in response to perceived concealment, but may also simply occur as a result of decreased parental knowledge about their child, which reduces their ability to adequately respond to their child's needs.

We have previously discussed how adolescents may employ secrecy to increase their independence from parents and to evade criticism and punishment (e.g., Finkenauer et al., 2002; Guerrero & Afifi, 1995). We will return to the issue of secrecy in adolescence shortly, but for now we will discuss how people may generally use secrecy in relationships in similar ways and how this may affect their relationship. In principle, anyone could use secrecy in a relationship to reduce their partner's control over them and to feel independent and in control, but it seems that secrecy would be more likely to occur in power-imbalanced relationships such as the vertical adolescent-parent relationship. Being asymmetrically dependent on one's partner threatens individuals' needs for competence and self-esteem and motivates attempts to restore control (e.g., Fiske, Morling, & Stevens, 1996). For the less powerful partner, secrecy may provide a way to shift the power balance and (re-)gain control. However, our findings seem to suggest that this use of secrecy may backfire. When partners pick up on the secrecy, this may adversely affect their behavior towards the concealing partner. Given that the more powerful partner has greater power to affect the other's outcomes, secrecy may thus have negative effects on the secret-

keeper. The success of using secrecy strategically thus depends on one's skills at maintaining secrecy. Secrecy in relationships may benefit secret-keepers, but could potentially harm them and their relationships as well.

When Secrets Are Shared

The research presented in the second empirical part of this dissertation shows that not all secrets are necessarily bad. Shared secrets are not associated with any of the disadvantages of secrecy that have been demonstrated in previous research (e.g., Finkenauer & Rimé, 1998b; Larson & Chastain, 1990). Also, the psychosocial problems associated with keeping an individual secret were reduced once the secret had been shared with a confidant. Moreover, our findings suggest that sharing secrets may serve important interpersonal functions and that having shared secrets may be a sign of interpersonal competence. Thus, our findings imply that sharing secrets with others may have beneficial interpersonal effects as strong as the negative effects of keeping secrets from others. As we discussed in Chapter 4, Bellman (1984) suggested that sharing secrets creates feelings of intimacy and relatedness that are far more intense than those that are created by any other type of disclosure. Bellman further suggested that it is not the secret content as such that is crucial in increasing intimacy and relatedness among the secret-keepers. Rather it is the "doing secrecy" (p. 147), having the secret together and exchanging the secret information, that creates a feeling of relatedness among secret-keepers. As such, sharing secrets may play a role in regulating interpersonal relationships, but also in regulating groups such as adolescent peer groups or cliques and adult groups of friends or coalitions. Having shared secrets that are kept from outsiders identifies the dyad or group as an exclusive and special unit. Being an insider may help create a sense of belongingness and connectedness, while being an outsider may create feelings of separation and exclusion. Shared secrets may thus play a role in social processes at an interpersonal level as well as at intra- and inter-group levels. They may help regulate personal and interpersonal boundaries (cf. Petronio, 1991, 2000). Examining the role of sharing secrets in social relationships and investigating when and how people strategically share their secrets to create intimacy and regulate their social bonds presents a challenge for future research.

Secrecy in Adolescence

In Chapter 1, we have identified the attainment of independence from parents and the development of (skills in managing) relationships and social networks outside the family as two major developmental tasks in adolescence (e.g., Buhrmester, 1990; Grotevant & Cooper, 1986; Steinberg & Silverberg, 1986). We have also discussed how secrecy may be employed

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to facilitate the accomplishment of these tasks. However, our research shows that keeping secrets from parents may have adverse effects on adolescents and their relationships with their parents. On the other hand, we have seen that shared secrets are common among adolescents and that these secrets are predominantly shared with their friends. Our findings suggest that sharing secrets may benefit adolescents' interpersonal competence. Overall, our findings seem to suggest that adolescents may become increasingly secretive towards their parents but at the same time increasingly share their secrets with their friends. In their attempts to attain autonomy and independence from parents while establishing relationships outside the family, adolescents may thus employ secrecy in different ways. Although our findings suggest that secrecy from parents may have detrimental effects, it is possible that these negative effects are temporary and that adolescents' use of secrecy may help them accomplish their developmental tasks and form healthy relationships with parents and others in the longer run. Further investigation of these suggestions may provide a more complete picture of the consequences of secrecy in adolescence. Additionally, it may reinvigorate theories on adolescent development by focusing on the mechanisms underlying the successful accomplishment of developmental tasks.

Practical Implications

Our findings may have some important practical implications. For one, they underline the importance of recognizing the burden that keeping secrets may impose on individuals and the detrimental effects secrecy may have in relationships. They further attest to the mitigating effects of confiding one's secrets (cf. Kelly & McKillop, 1996). As such, our findings have important implications for counselors and relationship therapists. For example, adolescents who do not have confidants available, such as those who have no or few friends, may be especially vulnerable to the adverse consequences of keeping secrets. For these adolescents, the availability of alternative confidants like a school-counselor may be very helpful. Kelly et al. (2001, Study 1) identified trustworthiness as an important feature of a potential confidant. The likelihood of confiding a secret was further increased when a potential confidant was deemed understanding and non-judgmental. Thus, when a trustworthy, understanding, and non-judgmental confidant is made available, adolescents may need little encouragement to talk about their secrets, which may improve their psychosocial well-being. Given the limitations of our research, it would be inappropriate to make strong suggestions as to how people should manage secrecy in relationships, but as an example of the practical relevance of our research, consider the following. Recently, Stichting Korrelatie (2004), a Dutch foundation that runs a nationwide helpline for advice on mental and

physical health issues, issued a press release in which they noted an increase in the number of people reporting secrecy in their relationships. Although relationship issues had always been in the top three of reported problems, the issue of secrecy was remarkable because secrecy did not only seem to undermine relationships when it concerned issues like extramarital affairs, but also when it concerned a diverse array of topics less threatening to the relationship. In many cases, people had the best of intentions when keeping a secret from their partner (e.g., they did not want to burden their partner unnecessarily). While keeping a secret from their partner was rather stressful for many people, secrets were especially harmful for their relationship when their partner discovered the secrecy. People seemed to benefit from calling the helpline because it enabled them to share their secret with someone and get some advice on how to tell their partner about it.

Looking Ahead

In the previous chapters and the previous section of this final chapter, we have suggested some directions for future research. We now wish to make one final broad suggestion for future research on secrecy. We have repeatedly stressed that secrecy is a social phenomenon that happens between people and that is motivated by social concerns. Interpersonal relationships and social bonds are important to people and positive interactions with relationship partners may enhance well-being (Baumeister & Leary, 1995; Berscheid, 1985; Myers, 2000). Both keeping secrets and sharing secrets may be motivated to a large extent by belongingness needs, while keeping secrets may also be detrimental belongingness. Yet, previous research has largely investigated secrecy as an intrapersonal rather than an interpersonal phenomenon. Most studies have focused on secret-keepers rather than secret-targets or the relationships between the two, and have examined the physical and psychological detriments of (individual) secrecy for the secret-keeper. Our research has demonstrated that there is more to secrecy: It affects secret-targets as well as secret-keepers, and depending on the type of secrecy, it may have positive as well as negative interpersonal consequences. For a full understanding of the nature of secrecy and the ways in which it affects people, it is therefore necessary to consider the relational and interpersonal contexts in which it occurs. We therefore suggest that it is time for research on secrecy to get up close and interpersonal.

Interpersonal Dynamics of Secrecy: Separation and Connectedness

By nature, secrets separate those who are in the know from those who are not. On a psychological level, this separation may cause secret-keepers to

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experience increased distance from secret-targets and may give rise to feelings of loneliness. On an interpersonal level, secrecy may lead to actual separation and social distance. People are sensitive to explicit or symbolic messages that signal threats to their attachment to others (e.g., Baumeister & Leary, 1995; Williams, 2001). Furthermore, people may react aggressively when their belongingness is threatened (Twenge, Baumeister, Tice, & Stucke, 2001). Secret-targets may pick up on their partners' secrecy and experience similar feelings of separation and rejection, which may then negatively affect their behavior toward the secret-keeper and may lead them to start keeping secrets as well. Additionally, targets' decreased knowledge and understanding of the secret-keeper as a result of secrecy may impede their ability to provide support. Targets' behavior may in turn provoke more negative responses from secret-keepers. The resulting patterns of adverse interaction will affect the relationship and undermine partners' sense of belongingness and well-being in the relationship. The deterioration of the relationship may cause psychosocial problems for both partners. We would suggest that many of the detrimental consequences of secrecy are the result of such interpersonal processes. On the bright side, we have seen that sharing secrets may lead to increased feelings of intimacy, connectedness, and belongingness. By sharing secrets with a relationship partner, people can communicate caring, trust, and commitment to their partners. This may in turn entice partners to share their secrets as well. When partners share secrets together, they establish a shared reality that only they are privy to. Having shared secrets may thus provide a relationship with a unique and special quality. As such, shared secrecy may play an important role in the development and maintenance of relationships.

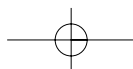
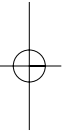
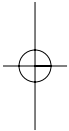
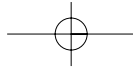
The Art of Wielding a Double-Edged Sword

Secrecy is a double-edged sword: While keeping secrets may protect individuals and their relationships from aversive social consequences, it is also an important risk factor that may cause more harm than good. Furthermore, sharing secrets may benefit relationships and social bonds. Secrecy thus seems to be a powerful interpersonal behavior that, when used skillfully, can help people maintain healthy relationships. It is therefore important for future research to further investigate the interpersonal nature and consequences of secrecy. In Chapter 1, we have discussed how secrecy may be related to other interpersonal behaviors such as disclosure, privacy, and deception. We have argued that secrecy and disclosure are related but distinct aspects of interpersonal communication, but the issue of shared secrets calls for re-examination of the relations between secrecy and disclosure. Do people share their secrets in an attempt to balance the pros and cons of secrecy and disclosure? To what extent and under what

circumstances is shared secrecy similar in nature and effects to disclosure versus secrecy? Similarly, the concept of shared secrets may have implications for the links between secrecy and privacy as means of regulating other's access to personal information. It would be worthwhile to further examine how secrecy is related to disclosure and privacy in everyday life and how it may be used by people to balance their conflicting personal and interpersonal needs and manage their interpersonal interactions (cf. Petronio, 2000). Such investigations may help identify the conditions under which secrecy may give rise to detrimental consequences versus those under which it may give rise to beneficial consequences.

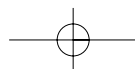
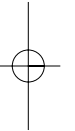
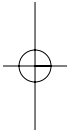
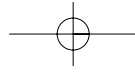
Concluding Remarks

We began this dissertation by remarking that it would deal with an elusive phenomenon. Now that we have come to its end, we hope that we have managed to capture and convey more of the nature and consequences of secrets than simply their elusiveness. Despite the problems inherent in empirical research investigating secrecy, we believe that we have been able to show that keeping secrets in relationships and keeping secrets all to oneself may be dangerous undertakings that should not be taken lightly. We have also shown that the predominant view of secrets as negative and harmful needs to be qualified. The majority of secrets are not as secret as is often assumed and are not as harmful as the extant literature would have us believe. Our research has provided but a glimpse of the possible functions and benefits of shared secrets for secret-keepers and their interpersonal relationships. The interpersonal dynamics and consequences of secrecy are still largely unknown, but our research suggests that we could learn much from studying them. Further analysis of the phenomenon of secrecy may provide us with insights into the development of psychosocial and relational problems, the attainment of social skills, individuation processes, processes of coalition formation, and the development, maintenance and termination of relationships. We would therefore like to close by inviting researchers to further investigate this uncharted area.



Endnotes

- ¹The plural "we" will be used throughout this dissertation in acknowledgement of the fact that its realization was a collaborative endeavor. Although the actual writing of this dissertation was a one-man job, the ideas and studies it presents were respectively developed and conducted in close collaboration with others (see the preface). In each of the empirical chapters, the term refers specifically to the first author and co-author(s) of the manuscript on which the chapter is based.
- ²This chapter is based on Frijns, Finkenauer, Vermulst, and Engels (in press).
- ³This chapter is based on Finkenauer, Frijns, Engels, and Kerkhof (in press).
- ⁴The correlations presented in Table 3.5 and the analyses presented in Tables 3.6 and 3.7 are not reported separately for mothers and for fathers. We initially conducted separate analyses for mothers and fathers and compared the patterns of associations. Because none of these analyses revealed any differences between the results for fathers and those for mothers, we chose to present the results of the analyses on their collapsed data.
- ⁵This chapter is based on Frijns and Finkenauer (2004a).
- ⁶The individual and shared secrets reported by participants in this sub-sample did not differ from those reported by participants who indicated having both types of secrets with respect to the assessed secret-characteristics. The number and type of confidants that shared secrets reported by the sub-sample had been shared with also did not differ from the number and type of confidants reported by participants who indicated having both types of secrets.
- ⁷None of the independent variables significantly predicted interpersonal competence in the domains of initiation, negative assertion, emotional support, and conflict management. The analyses concerning these variables are therefore not reported in a Table.
- ⁸This chapter is based on Frijns and Finkenauer (2004b).
- ⁹We also compared the secrets of participants who did not recall their secret with those of participants who correctly recalled their secret. At T1, we asked participants to report on a number of qualities of their secret, including how personal, important, and serious their secret was, and how long they had been keeping their secret. None of these secret-characteristics differentiated between recalled and not-recalled secrets, although participants who recalled their secret had been keeping it marginally longer than those who did not recall their secret, $t(51) = 1.93$, $p = .059$.



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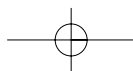
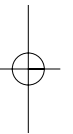
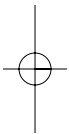
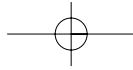
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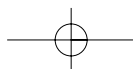
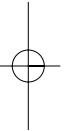
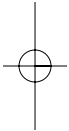
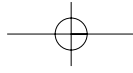
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Samenvatting (Summary in Dutch)

Geheimen Hebben Kwantiteit, Kwaliteit en Gevolgen

Hoewel geheimen haast per definitie ongrijpbaar zijn, vormen zij een onlosmakelijk onderdeel van ons alledaagse bestaan. We hebben allemaal wel eens een of meerdere geheimen gehad. Het doel van dit proefschrift was de gevolgen van het hebben van geheimen te onderzoeken. Naar de definitie die in dit proefschrift gehanteerd werd, bestaat een geheim uit informatie die door ten minste één persoon bewust en actief voor ten minste één andere persoon verborgen wordt gehouden. Verreweg het meeste onderzoek naar geheimen richt zich op de nadelige gevolgen voor de persoon die ze geheim houdt. In dit onderzoek zijn er verbanden gelegd tussen het hebben van geheimen en een breed scala aan nadelen, waaronder gezondheidsproblemen, depressiviteit, stress en gespannen sociale relaties. In het eerste hoofdstuk van dit proefschrift werden, na een algemene inleiding in de theoretische en empirische achtergronden, een aantal leemtes in onze kennis van de gevolgen van geheimen naar voren gebracht. Ten eerste staat het niet vast welk oorzakelijk verband er aan de negatieve samenhang tussen het hebben van geheimen en het welzijn ten grondslag ligt. Veroorzaken geheimen problemen of leiden problemen ertoe dat mensen geheimen houden? Vrijwel al het onderzoek naar de nadelen van geheimen is cross-sectioneel van opzet. Om echter aannemelijk te maken dat deze nadelen daadwerkelijk het gevolg zijn van het hebben van geheimen zijn longitudinale studies nodig. Een eerste doel van het onderzoek dat in dit proefschrift gepresenteerd werd, was dan ook het longitudinaal bestuderen van de verbanden tussen geheimhouding en welzijn, en het onderzoeken van de longitudinale bijdrage van geheimhouding aan psychosociale problemen. Ten tweede richt de overgrote meerderheid van de studies naar geheimen zich op de gevolgen voor de persoon die ze geheim houdt. Bij een geheim zijn echter per definitie altijd tenminste twee personen betrokken: Degene die het geheim houdt en degene voor wie het geheim gehouden wordt. Een tweede doel van het onderzoek dat in dit proefschrift gepresenteerd werd, was het onderzoeken van de relationele implicaties van het hebben van geheimen door de gevolgen voor het gedrag van degene voor wie geheimen worden gehouden te onderzoeken. Ten derde wordt er in de bestaande literatuur over geheimen vaak vanuit gegaan dat alle geheimen gelijk zijn. Dat wil zeggen, men gaat er van uit dat geheimen door één persoon voor iedereen verborgen worden gehouden en dat deze geheimhouding schadelijk is voor de persoon. In dit proefschrift werd deze algemene conclusie in twijfel getrokken. Er zijn genoeg voorbeelden van geheimen die niet aan deze beschrijving voldoen, zoals geheimen die adolescenten voor hun ouders houden maar wel met een of meerdere vrienden delen. Wij beargumenteerden dat dergelijke gedeelde geheimen minder schadelijk

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zouden moeten zijn dan geheimen die met niemand gedeeld worden. Het laatste doel van het onderzoek dat in dit proefschrift gepresenteerd werd, was het onderzoeken en vergelijken van de gevolgen van deze twee typen geheimen.

De empirische hoofdstukken van dit proefschrift zijn opgesplitst in twee delen. In het eerste empirische deel werden de intra- en interpersoonlijke gevolgen van het hebben van geheimen voor ouders in de adolescentie onderzocht. Hierbij werd de samenhang onderzocht tussen enerzijds de mate waarin adolescenten geheimen hebben voor hun ouders en anderzijds het psychosociale welzijn van deze adolescenten en het opvoedingsgedrag van hun ouders. In het tweede empirische deel werden de twee eerder genoemde typen geheimen met elkaar vergeleken en werden hun gevolgen voor het welzijn onderzocht. Verder werden in dit deel de longitudinale gevolgen van het hebben en delen van een geheim onderzocht.

Hoofdstuk 2 presenteert een onderzoek onder adolescenten naar de gevolgen van het hebben van geheimen voor ouders. Hierbij werd de voorspellende waarde van geheimhouding voor de ouders onderzocht door haar samenhang met het welzijn longitudinaal te onderzoeken. We voorspelden dat de psychosociale nadelen van het hebben van geheimen, zoals die in onderzoek onder volwassenen en adolescenten herhaaldelijk gevonden zijn, ook longitudinaal naar voren zouden komen. Verder werd het onderzoek naar de nadelen van geheimen uitgebreid door ook de relatie met probleemgedrag te bestuderen. Tenslotte voorspelden we dat geheimhouding voor ouders zou kunnen bijdragen aan de ontwikkeling van adolescenten doordat het de mate waarin adolescenten zelfcontrole ervaren zou verhogen. In overeenstemming met onze voorspellingen bleek dat de mate waarin adolescenten geheimen hielden voor hun ouders samenhang met de mate waarin zij psychosociale problemen en gedragsproblemen ondervonden. Geheimhouding voor ouders bleek ook aan beide typen problemen longitudinaal een bijdrage te leveren. Verder bleek geheimhouding voor ouders zowel cross-sectioneel als longitudinaal sterk samen te hangen met zelfcontrole. In tegenstelling tot onze verwachting, voorspelde geheimhouding echter een lagere mate van zelfcontrole. Oftewel, adolescenten die aangaven veel geheimen voor hun ouders te hebben, rapporteerden ook meer psychosociale problemen, meer gedragsproblemen en minder zelfcontrole. Deze resultaten bleven zelfs overeind wanneer er gecontroleerd werd voor de invloed van andere eigenschappen van de adolescent-ouder relatie, waaronder de mate waarin adolescenten communiceerden met hun ouders, de mate waarin zij hun ouders als ondersteunend ervoeren en de mate waarin zij vertrouwen hadden in hun ouders. Samengenomen suggereren deze resultaten dat het hebben van geheimen voor ouders een belangrijke risicofactor vormt voor het welzijn, probleemgedrag en de zelfcontrole van adolescenten.

In Hoofdstuk 3 richtten we de aandacht op de andere kant van het verhaal. Dat wil zeggen, op de gevolgen die het hebben van geheimen voor ouders heeft voor de ouders. Dit hoofdstuk presenteert twee studies onder adolescenten en hun ouders die bestudeerden hoe de mate waarin (ouders menen dat) adolescenten geheimen hebben voor hun ouders samenhangt met het gedrag van de ouders ten opzichte van hun kind. We voorspelden dat de mate waarin ouders menen dat hun kind geheimen voor ze heeft negatiever opvoedingsgedrag jegens hun kind zou moeten voorspellen. Verder werd er onderzocht of de mate waarin adolescenten daadwerkelijk geheimen voor hun ouders hebben, bijdraagt aan de voorspelling van ouderlijk opvoedingsgedrag. De resultaten van beide studies laten zien dat de perceptie van ouders dat hun kind geheimen voor ze heeft inderdaad samenhangt met negatiever opvoedingsgedrag. Deze bevinding werd in de tweede studie gerepliceerd voor de perceptie van liegen. Dit verband tussen ouderlijke perceptie en opvoedingsgedrag bleef zelfs overeind wanneer er gecontroleerd werd voor de ouderlijke perceptie van zelfonthulling door het kind. Er werd weinig ondersteuning gevonden voor de suggestie dat de mate waarin adolescenten daadwerkelijk geheimen hebben voor hun ouders het verband tussen ouderlijke perceptie en opvoedingsgedrag beïnvloedt. Met andere woorden, de mate waarin ouders menen dat hun kind geheimen voor ze heeft, hangt sterk samen met hun opvoedingsgedrag, ongeacht de mate waarin hun kind daadwerkelijk geheimen voor ze heeft. Deze resultaten suggereren dat ouders geheimhouding door hun kind opvatten als een boodschap van afwijzing waarop zij negatief reageren.

In het tweede empirische deel van dit proefschrift verschoof de aandacht van de kwantiteit naar de kwaliteit van geheimen. Dat wil zeggen, na eerst de mate van geheimhouding onderzocht te hebben, werden hier de gevolgen van het hebben van verschillende typen geheimen onderzocht. Er werd een onderscheid geïntroduceerd tussen geheimen die mensen helemaal voor zichzelf houden, hierna individuele geheimen genoemd, en geheimen die met ten minste één andere persoon gedeeld worden, hierna gedeelde geheimen genoemd. Deze twee typen geheimen werden op een aantal eigenschappen met elkaar vergeleken en hun verbanden met het welzijn werden onderzocht. Verder werden de gevolgen van het hebben van een individueel geheim longitudinaal onderzocht en werden de veranderingen in het welzijn onderzocht wanneer een individueel geheim aan een ander werd toevertrouwd.

In Hoofdstuk 4 werd beargumenteerd dat geheimen over het algemeen gedeeld worden met ten minste één andere persoon en dat gedeelde geheimen daarom meer zouden moeten voorkomen dan individuele geheimen. Verder voorspelden we dat gedeelde geheimen minder schadelijk zouden moeten zijn voor degene die ze houdt dan individuele

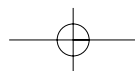
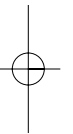
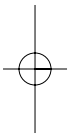
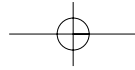
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geheimen omdat het delen van een geheim de negatieve gevolgen van geheimhouding zou verminderen. Bovendien suggereerden we dat het delen van geheimen een belangrijke vaardigheid is in het onderhouden van relaties, en dat het hebben van een gedeeld geheim daarom zou moeten samenhangen met meer interpersoonlijke vaardigheid. De resultaten van drie studies ondersteunden het voorgestelde onderscheid tussen individuele en gedeelde geheimen. In elk van deze studies bleken gedeelde geheimen veel meer voor te komen dan individuele geheimen. Uit twee van de studies bleek geen enkel verschil in de specifieke inhoud van individuele versus gedeelde geheimen, wat er op wijst dat of een geheim gedeeld wordt niet afhankelijk is van de inhoud van het geheim. In de derde studie bleek het hebben van een individueel geheim samen te hangen met fysieke en psychologische nadelen. Het hebben van een gedeeld geheim bleek daarentegen in het geheel niet samen te hangen met enig nadeel. Sterker nog, het hebben van een gedeeld geheim bleek alleen samen te hangen met voordelen, waaronder een verhoogde interpersoonlijke competentie. De resultaten van een directe vergelijking tussen individuele en gedeelde geheimen toonden een soortgelijk patroon, ondanks het feit dat er hierbij gecontroleerd werd voor de mogelijke invloed van andere eigenschappen van de geheimen. Samengenomen lijken deze resultaten te suggereren dat niet alle geheimen gelijk zijn. De meeste geheimen zijn niet zo geheim als vaak verondersteld wordt, maar zijn vaak met minstens één andere persoon gedeeld. Deze gedeelde geheimen zijn niet zo schadelijk voor de persoon die ze geheim houdt als individuele geheimen en leveren wellicht een bijdrage aan zijn of haar sociale vaardigheden.

In Hoofdstuk 5 werd een onderzoek beschreven naar de longitudinale verbanden van het hebben en delen van een geheim. Op twee meetmomenten werden deelnemers gevraagd naar een geheim. Op het eerste meetmoment werd gevraagd of zij een individueel geheim hadden, en op het tweede meetmoment werd gevraagd of zij dit geheim nog steeds verborgen hielden of het inmiddels gedeeld hadden. Degenen die op het eerste meetmoment aangaven geen individueel geheim te hebben werd op het tweede meetmoment gevraagd of zij nu wel een individueel geheim hadden. We voorspelden dat het hebben van een individueel geheim longitudinaal zou moeten bijdragen aan psychosociale problemen. Verder voorspelden we dat het psychosociale welzijn van mensen die hun individuele geheim delen, zou moeten verbeteren in vergelijking met diegenen die hun geheim voor zichzelf blijven houden. Tenslotte voorspelden we dat mensen die een individueel geheim gaan houden een toename aan psychosociale problemen zouden moeten ondervinden in vergelijking met diegenen die geen geheim houden. Zoals verwacht bleek uit de resultaten dat het hebben van een individueel geheim longitudinaal bijdroeg aan de mate waarin deelnemers psychosociale problemen

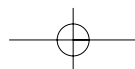
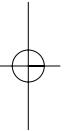
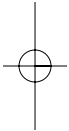
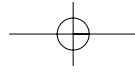
ondervonden, ook wanneer gecontroleerd werd voor de aanvankelijke mate waarin zij deze problemen ondervonden. Andersom kon de mate waarin deelnemers psychosociale problemen ondervonden niet voorspellen of zij later een individueel geheim zouden gaan houden of hun individuele geheim gedeeld zouden hebben. Deze resultaten suggereren dat het hebben van een individueel geheim psychosociale problemen veroorzaakt, en niet andersom. Wanneer deelnemers op het tweede meetmoment aangaven hun individuele geheim gedeeld te hebben, bleek hun psychosociale welzijn op een aantal punten verbeterd te zijn ten opzichte van diegenen die aangaven hun geheim nog steeds voor zichzelf te houden. Wanneer deelnemers op het tweede meetmoment aangaven inmiddels een individueel geheim te hebben, bleek hun psychosociale welzijn op een aantal punten verslechterd te zijn ten opzichte van diegenen die aangaven nog steeds geen individueel geheim te hebben. Deze resultaten maken het aannemelijk dat individuele geheimen een rol spelen in de ontwikkeling van psychosociale problemen. Ze suggereren verder dat het delen van geheimen kan helpen de nadelen van het hebben van geheimen te beperken.

In het slothoofdstuk werden de belangrijkste bevindingen op een rijtje gezet en teruggekoppeld aan de doelen die in het eerste hoofdstuk geformuleerd zijn. De bevindingen van de longitudinale studies uit de hoofdstukken 2 en 5 laten zien dat het hebben van geheimen een belangrijke factor zou kunnen zijn in het ontstaan en de ontwikkeling van psychosociale problemen. Deze bevindingen laten zien dat het hebben van veel geheimen voor ouders en het hebben van individuele geheimen tot een breed scala aan psychosociale problemen kan leiden. De bevindingen van de studies in Hoofdstuk 3 laten zien dat geheimen niet alleen een invloed kunnen hebben op de degene die ze geheim houdt, maar ook op degene voor wie ze geheim worden gehouden. Deze bevindingen suggereren dat de nadelige gevolgen van het hebben van geheimen gedeeltelijk veroorzaakt kunnen worden door de negatieve reacties van mensen die vermoeden dat er geheimen voor ze verborgen worden gehouden. Tenslotte laten de bevindingen van de studies uit Hoofdstuk 4 zien dat niet alle geheimen gelijk zijn. Alleen het hebben van individuele geheimen hing samen met nadelen. Het hebben van gedeelde geheimen hing niet samen met enig nadeel, maar lijkt juist bij te dragen aan de sociale competentie. Het laatste hoofdstuk werd afgesloten met een discussie van de implicaties van de bevindingen en een aantal suggesties voor toekomstig onderzoek.



Curriculum Vitae

Tom Frijns was born in 1974 in the highlands of the Netherlands, where he spent the first eighteen years of his life growing up in the village of Simpelveld. After successfully completing secondary education at Sancta Maria college in 1992, he set off for Utrecht to become a productive member of society. Between 1992 and 1997, his exploits included studying Biology and English at Utrecht University, working at Toys 'R' us, and traveling to Latin America. In 1997, he found his calling in the study of Psychology at Utrecht University. He obtained his Masters degree in Social Psychology in 2001, and embarked on a PhD-project on secrecy at the department of Social Psychology of the Free University Amsterdam shortly thereafter. This book is the result of his efforts to uncover the secrets of secrets over the last three years. After he finished writing this book, Tom joined the teaching staff at the afore mentioned department, and he is currently trying to enthuse the next generation of psychologists for the field of Social Psychology.



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